DAIKIN

altherma

all-in-one Comfort

for residential & commercial applications

DAIKIN ALTHERMA

HEATING CATALOGUE

Heating, domestic hot water and cooling

Sustainable energy solutions

for residential and commercial use

You and your customer have decided to switch to an energy-efficient heating system that produces low CO_2 emissions. Daikin Altherma is a **total heating and domestic hot water system** based on air to air heat pump, ground source heat pump and hybrid technology. One that represents a flexible and cost-effective alternative to a fossil fuel boiler. It also has an option for cooling.*

The inherent energy-efficiency characteristics of Daikin Altherma make it an ideal solution for **reduced energy consumption and low CO_2 emissions**. Its high- and low-temperature heating systems provide optimal comfort. Highly **energy-efficient** heat pumps with advanced compressor technology transform unused and inexhaustible heat from the surrounding air into usable heat, either as part of the overall climate-control system or to heat domestic hot water. Moreover, the system is easy to install.

*The Daikin Altherma cooling option is available for low-temperature and hybrid heating systems (under floor heating system, heat pump convectors).

& efficient

Offer your customer the benefits of Daikin technology 6

Top energy-efficient solutions for every application 10

Heating, domestic hot water and cooling for replacement of a gas boiler

Daikin Altherma hybrid heat pump 10

- Low running costs for heating and domestic hot water compared to traditional boilers 12
- Low investment benefits 14
- Providing sufficient heat in renovation applications 15
- Easy and fast installation 15

Heating & domestic hot water for replacement of oil boilers

Daikin Altherma high temperature 18

- Split system: indoor & outdoor unit 21
- Domestic hot water tank 24
- Solar connection 25

Heating, domestic hot water and cooling for new houses

Daikin Altherma low temperature 30

- Split system: indoor & outdoor unit 32
- Monobloc system 40
- Heat pump convector 44

Heating and domestic hot water for new build and replacement of boilers

Daikin Altherma ground source heat pump 46

- High seasonal efficiency 49
- Quick and easy installation 51
- Compact indoor unit with pleasing design 51
- New user interface 51

Heating, domestic hot water and cooling for residential and commercial applications

Daikin Altherma Flex Type 52

- 8 benefits 4 any application 54
- Two Daikin technologies combined 56
- Domestic hot water tank 58
- Easy control 59
- Heat pump convector 62

Selection tools 64

- Energy savings calculator 66
- Simulation software 67
- Selection and design software for Daikin Altherma Flex Type 67

Technical specifications 68

Offer your customer
the benefits of Daikin technology

1. MAXIMUM USE OF RENEWABLE ENERGY

Air to water technology: extracting heat from the outside air

Using a heat pump, the system extracts heat and uses it to raise the temperature of the water in the system, thus reducing costs and energy usage.

› Guaranteed heating capacity down to -25°C so no winter worries

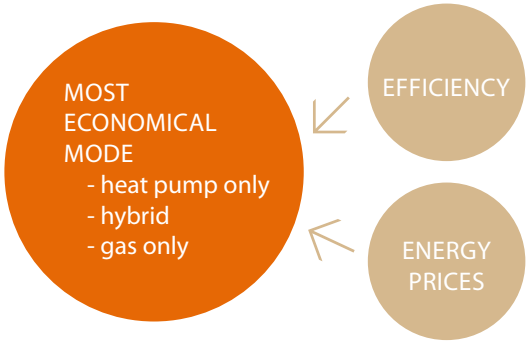
› A solar solution can be included for pre-heating the domestic hot water

Hybrid technology: a gas boiler combined with air-to-water technology

By combining the latest and most efficient gas-condensing boilers with our heat pump technology the customer can have the best of both worlds.

› The most economical heating mode is selected depending on current energy prices, the outdoor temperature and the desired internal comfort levels

› This combination makes optimal use of both technologies



Ground to water technology: extracting heat from the ground

The use of geothermal technology allows heat to be extracted from the ground and is used to raise the temperature of the water in the system.

› Ideal for locations where the average winter temperature drops below 3°C

› High seasonal efficiency since the underground temperatures are very stable despite the air temperature

2. OPTIMAL COMFORT

Our solution allows a single system to deliver heating in the winter, cooling in the summer and domestic hot water all year round … and when combined with our user-friendly control system, it allows the customer to programme for perfect comfort!

3. PERFECT FOR ANY APPLICATION

The Daikin Altherma is the perfect solution for any application in both the residential and commercial fields and is currently providing optimal comfort, energy efficiency and cost savings for

- New houses
- Low energy houses
- Complete heating system renovations
- Renovations that retain the existing piping and radiators
- Bivalent solutions to combine with secondary heating systems
- Apartment complexes
- Hotels
- Restaurants
- Spas and leisure complexes

4. COMBINES WITH ALL TYPES OF HEAT EMITTERS

What heat emitters are used depends on the needs of the customer both for perfect comfort and aesthetic reasons and the Daikin Altherma combines perfectly with underfloor heating, heat pump convectors and low or high temperature radiators.

Top energy-efficient solutions for every

AIR TO WATER APPLICATIONS

Heating, domestic hot water and cooling for replacement of a gas boiler

Daikin Altherma hybrid heat pump

p. 10

AIR TO WATER APPLICATIONS

Heating and domestic hot water for replacement of oil boilers

Daikin Altherma high temperature

p. 18

AIR TO WATER APPLICATIONS

Heating, domestic hot water and cooling for new houses

Daikin Altherma low temperature

p. 30

application

BRINE TO WATER APPLICATIONS

Heating and domestic hot water for new build and replacement of boilers

Daikin Altherma ground source heat pump

p. 46

AIR TO WATER APPLICATIONS

Heating, domestic hot water and cooling for residential and commercial applications

Daikin Altherma Flex Type

p. 52

SOURCE TO WATER APPLICATIONS

A new opportunity in

There is a growing demand from home owners to replace heating systems, especially replacing of gas boilers, with more efficient, more cost-effective and more environmentally friendly systems that reduce CO_2 emissions, reduce energy consumption and protect their budget.

Hybrid technology

The answer is the Daikin Altherma hybrid heat pump.

For space heating, the Daikin Altherma hybrid heat pump will **combine air-to-water heat pump technology with gas condensing technology** by searching for the optimum economical condition for its operation, combining parameters of energy costs (electricity, gas), heat pump efficiency and heat load requirements to deliver up to 35% more heating efficiency, plus major cost savings.

For domestic hot water, the Daikin Altherma hybrid heat pump optimises the operation of the most efficient gas condensing boiler.

Your benefits

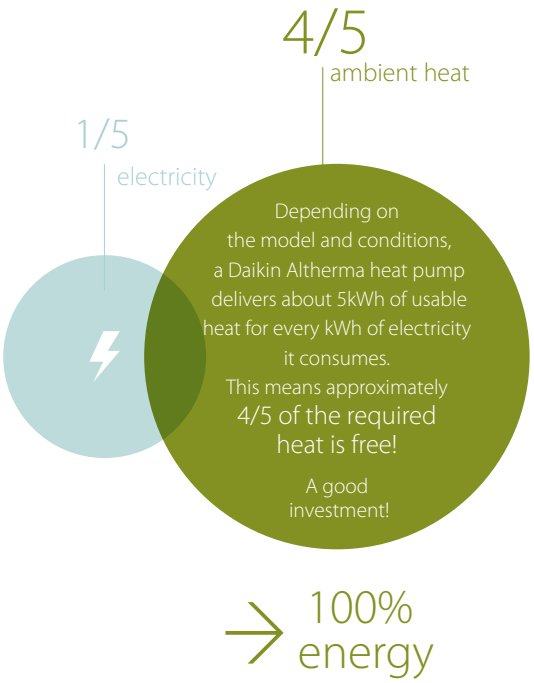
- ✓ Low running costs for heating and domestic hot water compared to traditional boilers
- ✓ Low investment cost
- ✓ Provides sufficient heat in renovation applications
- ✓ Easy and fast installation

Daikin Altherma hybrid heat pump

residential heating!

What is an air-to-water heat pump?

The Daikin Altherma air-to-water heat pump uses a sustainable energy source: extracting heat from the outside air. In a closed loop containing a refrigerant, a thermodynamic cycle is created through evaporation, condensation, compression and expansion. This 'pumps' heat from a lower to a higher temperature level. The heat gained is transferred to your home's central heating distribution system via a heat exchanger.

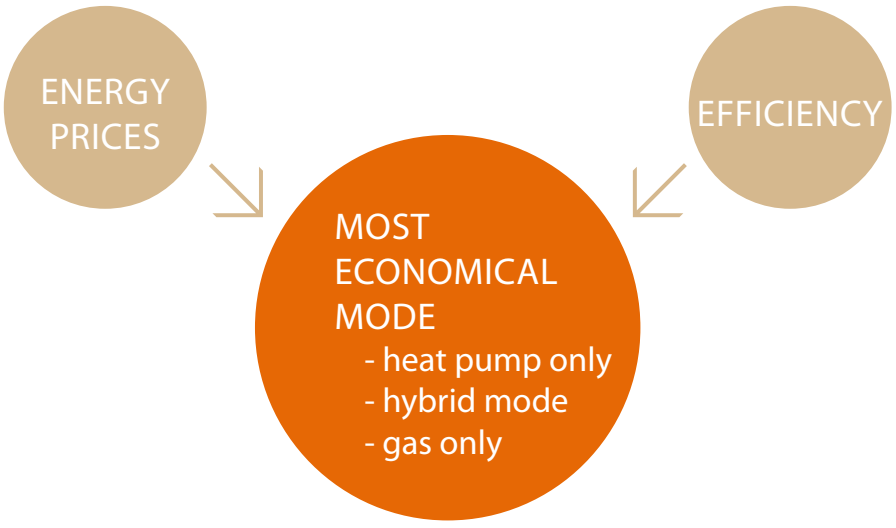

4/5
ambient heat
1/5
electricity
Depending on the model and conditions, a Daikin Altherma heat pump delivers about 5kWh of usable heat for every kWh of electricity it consumes.
This means approximately 4/5 of the required heat is free!
A good investment!
100% energy

What is condensing boiler technology?

Condensing boiler technology converts the fuel used into usable heat, virtually without loss. This is both good for the environment and your wallet, since lower energy consumption means lower heating costs, less use of energy resources and a reduction in CO_2 emissions. During this process, flue gases are cooled to the extent that the steam they contain is condensed. The energy that is generated is used as heating energy.

Low running costs for heating and domestic hot water compared to traditional boilers

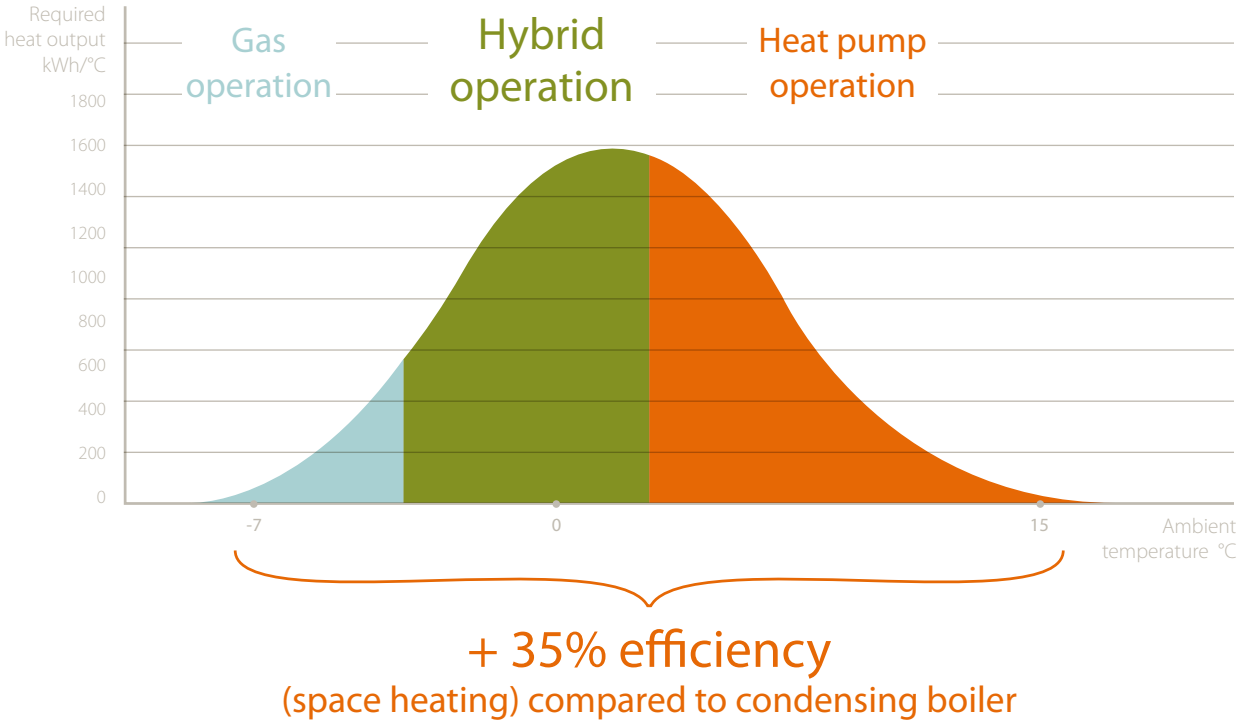
A. SPACE HEATING



Depending on the outdoor temperature, energy prices and the internal heat load, the Daikin Altherma hybrid heat pump smartly chooses between the heat pump and/or the gas boiler, possibly in simultaneous operation, always selecting the most economical mode to operate.

Looking at an average European climate, the largest part of the required heat output is covered by the hybrid and heat pump operation, resulting in up to 35% more heating efficiency.

Illustration of an average European climate



- Heat load: 14 kW
- 70% heat pump output
- 30% gas boiler output

Heat load = the capacity of the space heating system required to maintain comfortable indoor temperatures at any time.
Required heat output = heat load x n° of occuring hours per year

Heat pump operation

The heat pump integrated in the Daikin Altherma hybrid heat pump is the best available technology for optimizing running costs at moderate outdoor temperatures, resulting in a coefficient of performance of 5.04[1]!

(1) heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)

Hybrid operation

If a high heat load is required, or to achieve the highest efficiencies at the current conditions, both the gas boiler and heat pump operate at the same time in the most economical way.

The water flow rate will be automatically regulated, in order to have the possibility of lowering the temperature of the water flowing from the radiators to the heat pump and so maximizing heat pump efficiency.

The exact time the switch-over is made from heat pump operation to hybrid operation depends on the house characteristics, energy prices and the requested indoor temperature setting.

Gas operation

When outdoor temperatures are dropping drastically, it is no longer efficient to operate in hybrid mode. At that point, the unit will switch automatically to gas operation only.

B. DOMESTIC HOT WATER

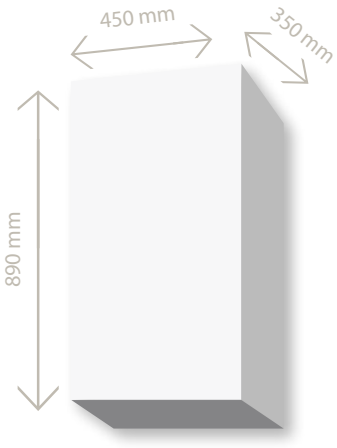
The domestic hot water is heated using gas condensing technology: cold tap water flows directly into a special dual heat exchanger that allows optimal and continuous condensing of the flue gases during domestic hot water preparation, resulting in an efficiency increase of 10-15% compared to traditional gas condensing boilers.

Additionally, thanks to the hybrid principle, when space heating is provided by the heat pump, domestic hot water can simultaneously be provided by the condensing technology, resulting in optimal comfort.

Low investment benefits

There is no need to replace the existing radiators (up to 80°C) and pipe work as our Daikin Altherma hybrid heat pump connects directly to the existing heating system, thus reducing the cost and disruption of installation. Thanks to the compact dimensions, the space needed for the new system is very similar to that of an existing system, so there is no loss of space and no need for structural modifications.

Daikin Altherma hybrid heat pump



Existing gas boiler

Providing sufficient heat in renovation applications

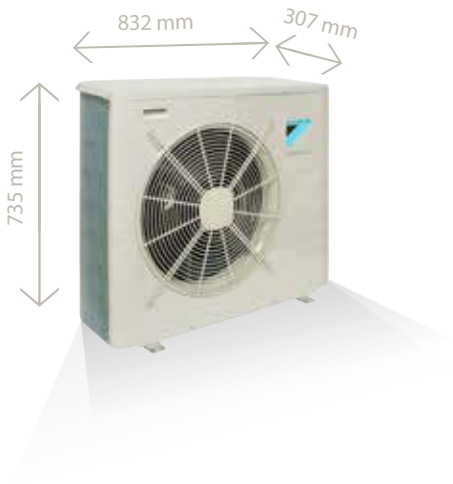
Several applications are possible using the Daikin Altherma hybrid heat pump as all heat loads are covered up to 27 kW. The gas boiler can be installed without the heat pump in the early stages, in order to quickly restart heating in the case of a breakdown of the existing gas boiler.

Easy and fast installation

The Daikin Altherma hybrid heat pump is delivered as three large components:

- heat pump outdoor unit
- heat pump indoor unit
- gas condensing boiler

Heat pump outdoor unit



Gas condensing boiler

Heat pump indoor unit

As the heat pump indoor unit and gas condensing boiler are delivered as separate units, they are easier to handle and manipulate, and easier to install.

The heat pump indoor unit is easily mounted on the wall with a standard back plate. With the quick interconnections, the gas condensing boiler is easily attached to the heat pump indoor unit, resulting in a very compact unit.

Similar to all wall mounted gas boilers, all the connections are at the bottom and all the components can be accessed from the front, which makes the unit easy to service and maintain.

Replacing a gas boiler with a Daikin Altherma hybrid heat pump means

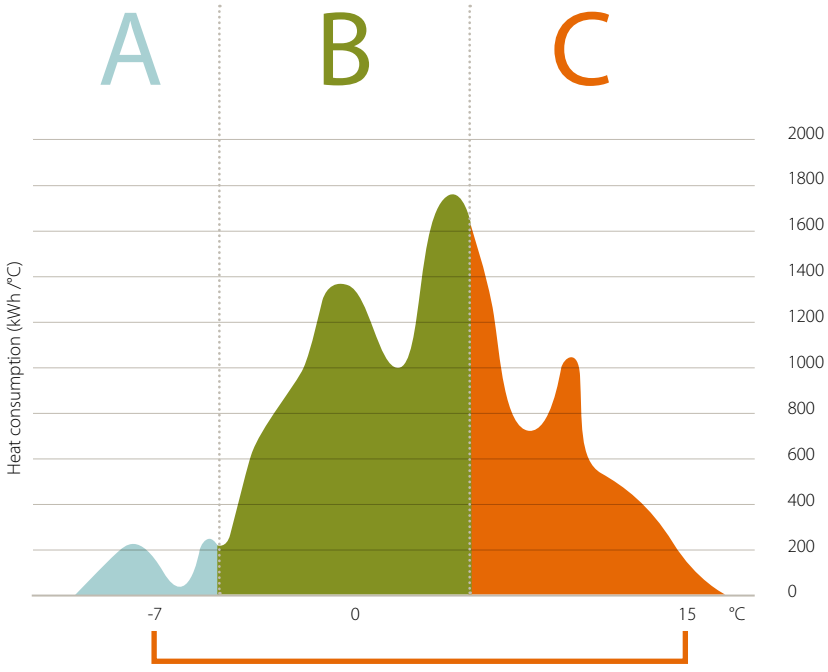
saving on running costs for both space heating and the domestic hot water supply

Case study

Running costs comparison versus new gas condensing boiler
Typical Belgian example

With our Daikin Altherma hybrid heat pump, the most cost-efficient combined operation will be used no matter what the ambient outdoor temperature is.

Heat consumption during a typical Belgian winter



A Low ambient temperatures
100% use of gas boiler

B Mid ambient temperatures
Heat pump + gas boiler

C High ambient temperatures
100% use of heat pump

+35% efficiency (space heating)
compared to existing condensing gas boiler

	DAIKIN ALTHERMA HYBRID HEAT PUMP	NEW GAS CONDENSING BOILER	EXISTING GAS CONDENSING BOILER
		SPACE HEATING	
Energy supplied by HP	12,800 kWh		
HP efficiency	3.64 SCOP		
Energy supplied by gas boiler	6,700 kWh	19,500 kWh	19,500 kWh
Space heating efficiency	90%	90%	75%
Running costs	1,220 €	1,520 €	1,820 €
		DHW HEATING	
Energy supplied by gas boiler*	3,000 kWh	3,000 kWh	3,000 kWh
DHW heating efficiency*	90%	80%	65 %
Running costs*	230 €	260 €	320 €
		TOTAL	
Running costs	1,450 €	1,780 €	2,140 €

* for combi-boiler, no separate domestic hot water tank

Yearly savings: for space heating and domestic hot water

versus new gas condensing boiler — 330 €/year — -19%

versus existing gas condensing boiler — 690 €/year — -32%

Heat load	16 kW
Design temperature	-8°C
Space heating off temperature	16°C
Maximum water temperature	60°C
Minimum water temperature	38°C
Gas price	0.070 €/kWh
Electricity price (day)	0.237 €/kWh
Electricity price (night)	0.152 €/kWh
Total space heating requirement	19,500 kWh
Total DHW heating requirement (4 persons)	3,000 kWh

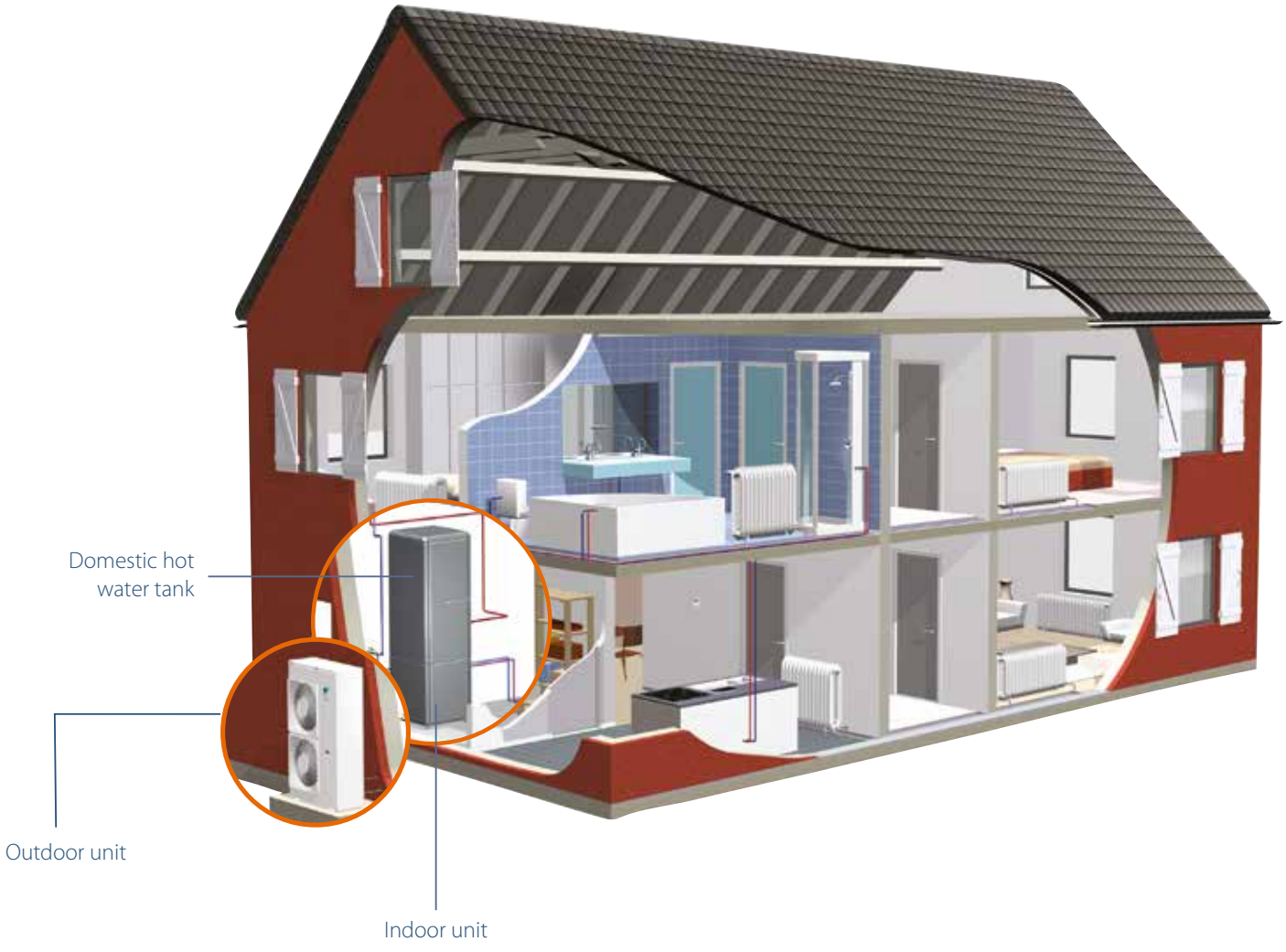
Heating & domestic hot water

Ideal for replacement of an oil boiler

Daikin Altherma high temperature

For replacement of oil boilers

Daikin Altherma high temperature system offers heating and domestic hot water for your home. This system can perfectly **replace a tradional boiler and connect to the existing piping**. Daikin Altherma high temperature is therefore the ideal solution for renovations. The split system consists of an outdoor unit and an indoor unit and can be completed with solar connection.



Split system

A split system consists of an outdoor unit and an indoor unit

The Daikin Altherma outdoor unit includes a heat pump that extracts heat from the outside air resulting in nearly 2/3 of all usable heat coming from a sustainable and free source.
The outdoor unit extracts heat from the ambient outdoor air. This heat is transferred to the indoor unit via refrigerant piping. The indoor unit receives the heat from the outdoor unit and further increases the temperature, allowing water temperatures up to 80°C for heating through radiators and for domestic hot water use. Daikin's unique cascade compressor approach to the heat pumps (one in the outdoor unit/one in the indoor unit) means optimum comfort at even the coldest outdoor temperatures, without the need for an electric back-up heater.
Available capacities are 11, 14 and 16 kW. If a greater heating capacity than 16 kW is required, you can now combine several indoor units with one single outdoor unit to give up to 40 kW of heating.
Daikin Altherma high temperature heats up to 3 times more efficiently than a traditional heating system based on fossil fuels or electricity. A lower running cost is thus achieved, while you can still enjoy a stable and pleasant level of comfort.*

* COP (Coefficient of Performance) of up to 3.08

Domestic hot water tank

Daikin Altherma's high water temperature is ideal for heating domestic hot water without the need for an additional electric heater. Rapid heating of domestic hot water also means smaller heaters are needed. For a family of approximately 4 people, the standard tank is the best solution. Should you require more hot water, a larger tank is also available.

Heat emitters

The Daikin Atherma high temperature system is designed to work only with high-temperature radiators, which come in various sizes and formats to suit the interior design as well as the heating requirement. Our radiators can be individually controlled or they can be regulated by the central heating control programme.

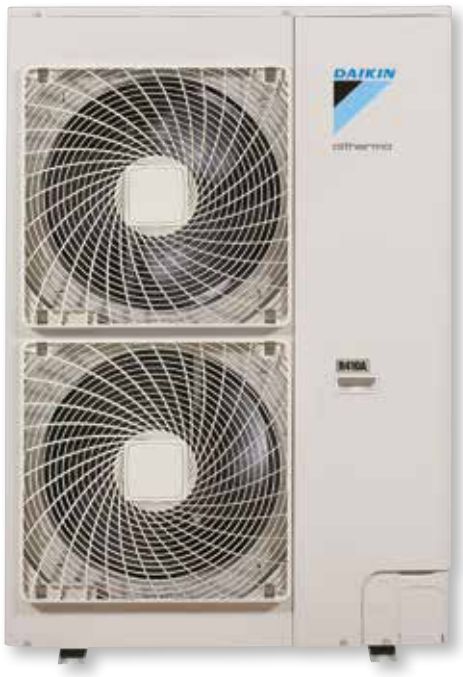
Solar connection

The Daikin Altherma high temperature heating system can optionally use solar energy for hot water production.
If the solar energy is not required immediately, the purpose-built hot water tank (EKHWP) can store large quantities of heated water for up to a day for later use as domestic hot water or for heating.

1. OUTDOOR UNIT AND INDOOR UNIT

OUTDOOR UNIT

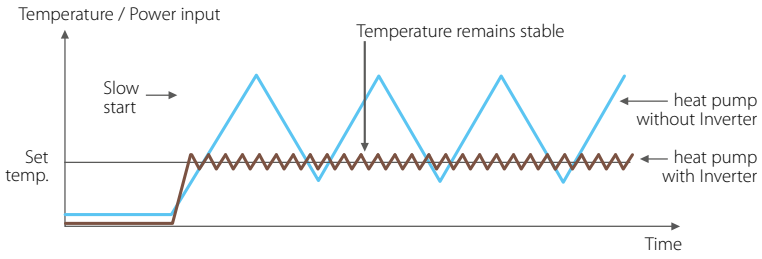
Daikin Altherma high temperature uses 100% thermo-dynamic energy to obtain water temperatures up to 80°C without using an additional heater.



Inverter control means even more savings!

The inverter constantly adapts your system to actual heating demand. No need to fiddle with settings: the programmed temperature is optimally maintained regardless of outdoor and indoor factors such as the amount of sunlight, the number of people in the room, etc. This results in unmatched comfort, prolonged system life since it's only in operation when needed, and 30% additional savings in energy costs compared to non-inverter heat pumps.

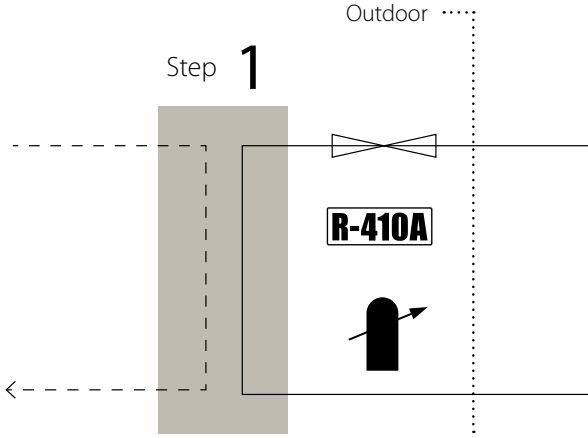
Heating operation:



Daikin Altherma cascade technology

High performance in 3 steps:

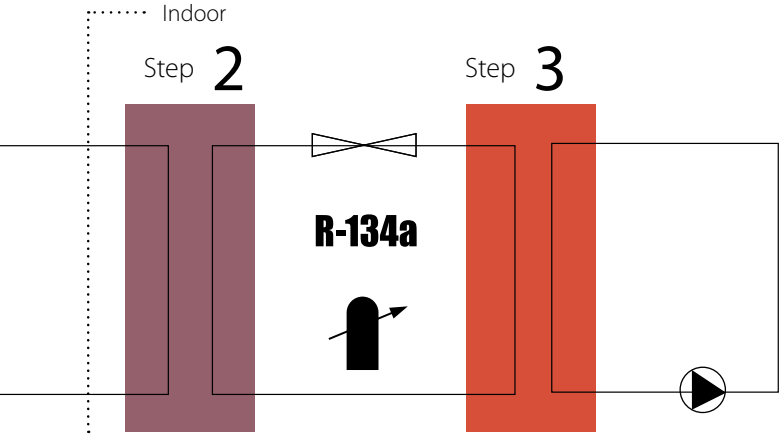
1 The outdoor unit extracts heat from the ambient outdoor air. This heat is transferred to the indoor unit via R-410A refrigerant.



INDOOR UNIT

› Available in heating only applications
› No back-up heater required thanks to cascade technology

1. Heat exchanger R-134a ⟷ H_2O
2. Heat exchanger R-410A ⟷ R-134a
3. Pump (DC-inverter to maintain fixed ΔT)
4. Compressor R-134a
5. Air purge
6. Manometer
7. Expansion vessel (12l)



2 The indoor unit receives the heat and further increases the temperature with R-134a refrigerant.

3 The heat is transferred from the R-134a refrigerant circuit to the water circuit. Thanks to the unique cascade compressor approach, water temperatures of 80° C can be reached without using an additional back-up heater.

2. DOMESTIC HOT WATER TANK

Whether your customer wants domestic hot water only or the advantage of solar energy, Daikin offers you the domestic hot water tank that meets his or her requirements.

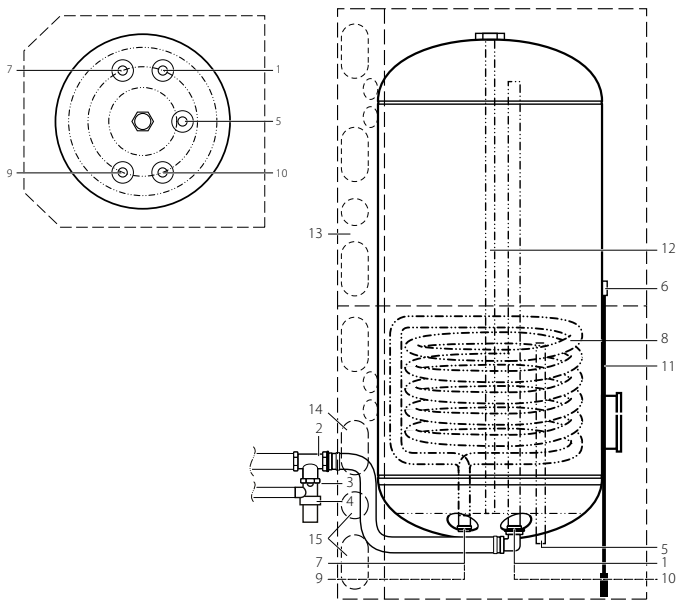
The indoor unit and domestic hot water tank can be stacked to save space, or installed next to each other, if only limited height is available.

Non-stacked Stacked

EKHTS: Domestic hot water tank

> Available in 200 and 260 litres
> Efficient temperature heat-up: from 10°C to 50°C in only 60 minutes*
> Heat loss is reduced to a minimum thanks to the high quality insulation
> At necessary intervals, the indoor unit can heat up the water to 60°C to prevent the risk of bacteria growth.

* Test done with a 16kW outdoor unit at ambient temperature of 7°C, 200L tank



1. Hot water connection
2. T-piece (field supply)
3. Pressure relief valve connection
4. Pressure relief valve (field supply)
5. Recirculation hole
6. Thermistor socket
7. Flow inlet connection
8. Heat exchanger coil
9. Return outlet connection
10. Cold water connection
11. Thermistor
12. Anode
13. Knockout holes
14. Knockout holes

3. SOLAR CONNECTION

Solar collectors

Averaged over an entire year, the sun delivers half of the energy we need to bring our domestic hot water up to the desired temperature. High-efficiency collectors with highly selective coating transfer all the short-wave solar radiation into heat. The collectors can be mounted on roof tiles.

Operation

The solar collectors are only filled with water when sufficient heat is provided by the sun. In this case, both pumps in the control and pump unit switch on briefly and fill the collectors with storage tank water. After filling, which takes less than a minute, one of the pumps switches off and water circulation is maintained by the remaining pump.

Unpressurised system

If there is insufficient sunshine or if the solar storage tank does not need more heat, the feed pump switches off and the entire Solar System drains into the storage tank. The addition of antifreeze is not necessary since, if the installation is not in use, the collector surfaces are not filled with water – another environmental advantage!

EKHWP: domestic hot water tank

The domestic hot water tank has two sections: The upper, always hot, section – the active water zone – and the lower, colder section – the solar zone.

1. The active water is heated in the upper section of the storage tank. The high temperature of this zone ensures that sufficient hot water is always available.
2. Solar collectors work more efficiently when colder water flows through the solar collectors. Therefore, the water that is fed directly to the solar collectors in solar operation is stored in the solar zone.

4. EASY CONTROL

System controller

The user interface controls the high temperature heating system in two ways:

1/ Weather dependant floating set point

When the floating set point functionality is enabled, the set point for the leaving water temperature will be dependant on the outside ambient temperature. At low outside ambient temperatures, the leaving water temperature will increase to satisfy the increasing heating requirement of the building. At warmer temperatures the leaving water temperature will decrease to save energy.

2/ Thermostat control

With Daikin Altherma's user interface with integrated temperature sensor, the ideal temperature can be easily, quickly and conveniently regulated.
The easy-to-control user interface for high temperature applications guarantees your comfort:

- Space heating
- Quiet mode
- Setback function
- Disinfection function
- Off function
- Time scheduler
- Domestic water heating mode

Optional room thermostat

The thermostat measures the room temperature and communicates directly to the user interface.

The LCD screen of the room thermostat indicates all the necessary information regarding the setting of the Daikin Altherma system in the blink of an eye. The user can easily navigate between the different menus, the most common of which include:

- Setting the temperature of the room based on measurements from the built-in or external sensor
- Off function (with integrated frost-protection function)
- Holiday function mode
- Comfort and reduced function modes
- Time (day and month)
- Programmable week-timer with 2 user defined and 5 pre-set programmes, with up to 12 actions per day
- Keylock function
- Setting limits. The installer can change the upper and lower limits
- Floor temperature protection *

* only in combination with EKRTETS

DAIKIN

Heating, domestic hot water and cooling

for new

Daikin Altherma offers two low temperature systems both offering **heating and cooling, including a domestic hot water system** all of which connect to the same range of accessories.

Daikin Altherma low temperature

houses

The Daikin Altherma low temperature heat pump, part of an innovative product range, is designed to deliver only the best in climate control:

Best seasonal efficiencies, providing the highest savings on running costs

- excellent COP ratings for incentive and certification schemes
- no need for (or only very limited) use of electrical assistance
- best efficiencies achieved within the most relevant temperature range

Perfect fit for new builds, as well as for low-energy houses

- custom-made product for very low heat loads
- build to withstand most severe winter conditions
- heating, cooling and domestic hot water in one system

offered in 3 solutions

Integrated floor standing unit, saving installation space and time

- all components and connections factory-made
- very small installation footprint required
- minimum electrical input with constantly available hot water

Integrated solar unit, maximising renewable energy and offering top comfort

- solar support of domestic hot water with unpressurised solar system
- lightweight plastic tank
- bivalent option: combinable with a secondary heat source
- app control possible

Wall mounted unit, offering flexibility for installation and domestic hot water connection

- Compact unit with small installation space, almost no side clearances are required
- Combinable with a separate domestic hot water tank up to 500 liters, with or without solar support

Guaranteed operation: Daikin Altherma is suitable for all climates, even withstanding

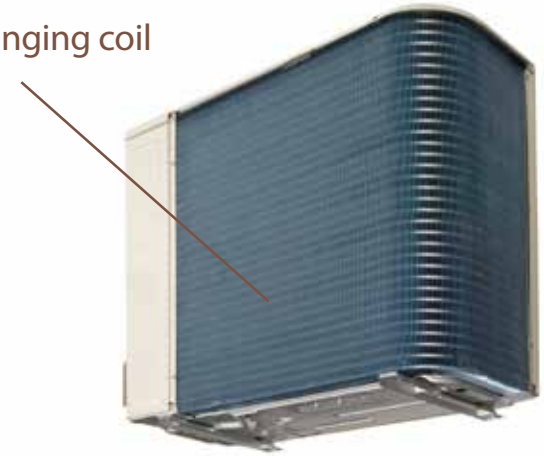
Daikin is renowned for its know-how related to frost protection on its heat pump range. The outdoor units are specifically designed to avoid ice build-up problems, even in the most severe winter conditions.

Daikin Altherma low temperature has a guaranteed operation down to an outside temperature of -25°C. This ensures sufficient heat pump operation for even the coldest climates.

1. The 4-8kW range of Daikin Altherma has a specifically designed casing to avoid the risk of ice formation on the outdoor unit coil.

- The outdoor unit has a free hanging coil, ensuring no ice accumulates in the lower part of the outdoor unit. This is key to offering appropriate frost protection and has the additional advantage that no electrical bottom plate heater is required.
- The discharge grill is also specifically designed to avoid ice accumulation.

Free hanging coil



Our advanced protection against frost and icing means that we can offer the Daikin Altherma across the whole of Europe.

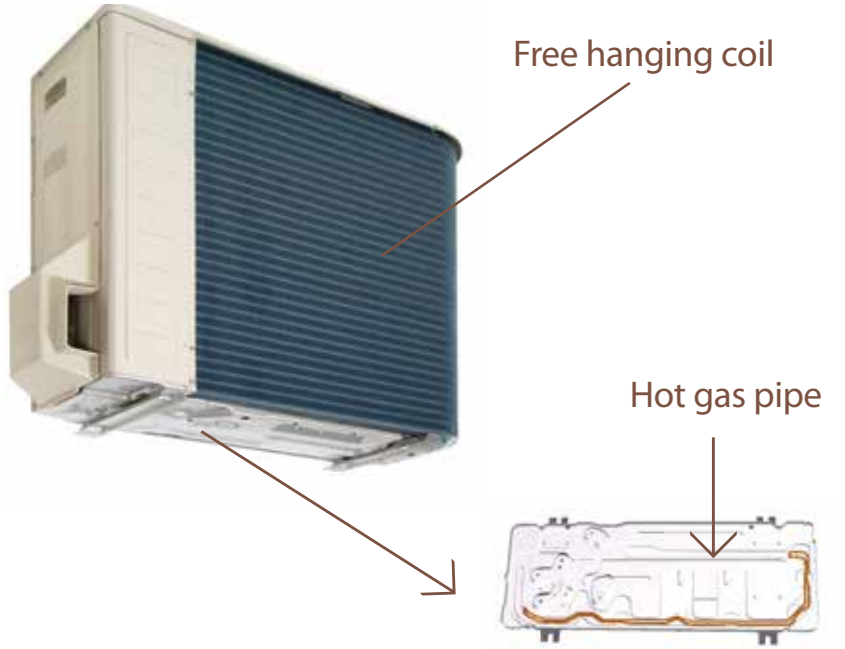
New discharge grille

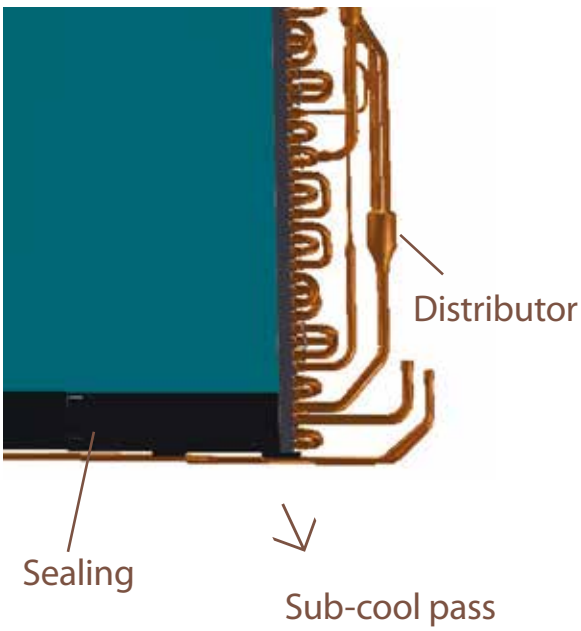
severe winter conditions

2. The 11-16kW range of Daikin Altherma (ERLQ-C) has specific frost protection to avoid the risk of ice forming on the outdoor unit coil.

- Hot gas pass: hot gaseous refrigerant coming from the compressor runs through the bottom plate to keep the base free of ice and all the drain holes open
- Sub-cool pass: before the refrigerant pipe is split by the distributor to the hairpins, the refrigerant passes through the bottom of the coil to keep this lower part free of ice

Only a small capacity bottom plate heater is installed (35W) on the ERLQ-C range, with smart operation logic only operating during defrost cycles. This saves around 90% of electricity consumption compared to a traditional heat pump system with a thermostatically controlled bottom plate heater.





1. INTEGRATED FLOOR STANDING UNIT, SAVING INSTALLATION SPACE AND TIME

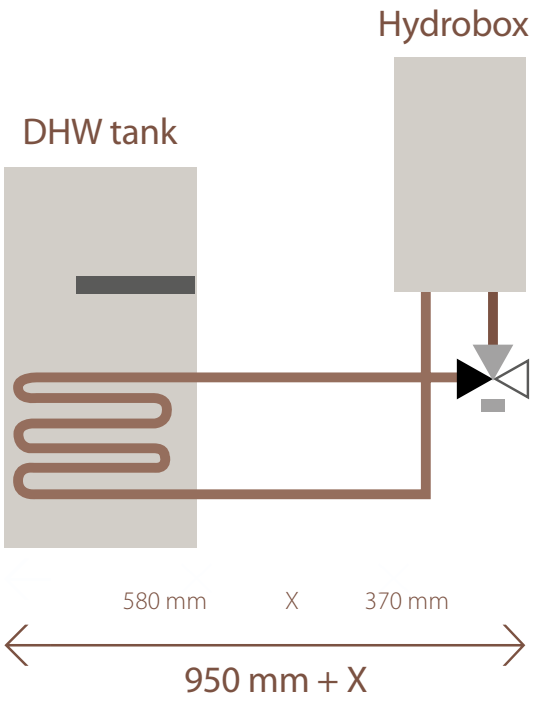
- The stainless steel domestic hot water tank is included in the unit, with all connections between heat pump module and tank factory mounted. This allows for a fast installation compared to a traditional set-up (wall-mounted with separate domestic hot water tank) with only water and refrigerant pipes to be connected.
- All hydraulic components are included (circulating pump, expansion vessel, back-up heater, etc. No need to look for third party components.
- The electric PCB board and hydraulic components are accessible from the front. This ensures easy serviceability and avoids the risk of any damage to electrical components due to water leakages.
- All water and refrigerant connections are at the top of the unit, assuring easy connection and accessibility. This means no connections are required at the back of the unit, resulting in a lower installation footprint.

Components are accessible from the front

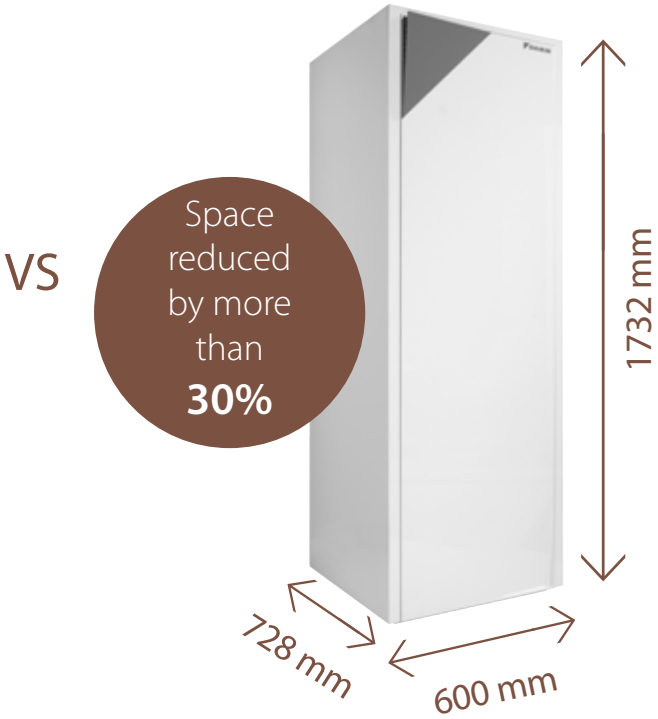
Thanks to the all-in-one design, the installation space is minimised both in terms of footprint and height

1 Compared to the traditional split-up version for a wall-mounted indoor unit and separate domestic hot water tank, the integrated indoor unit greatly reduces the installation space required.

Traditional set-up



Integrated indoor unit



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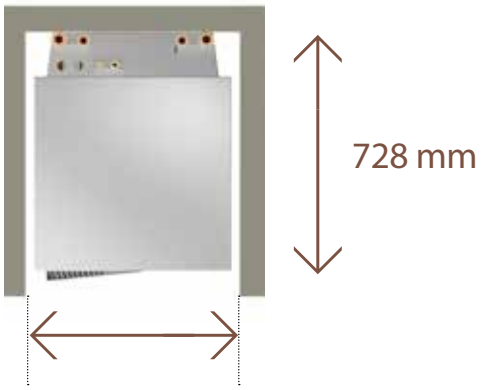


Smaller footprint: with a width of only 600 mm and a depth of 728 mm, the integrated indoor unit has a similar footprint compared to other household appliances.

Smaller installation footprint: almost no side clearances are required, and no space is required behind the unit for the piping, as the piping connections are at the top. This results in an installation footprint of only 0.45 m^2.

3 Low installation height: both the 180l and 260l version come with a height of 173 cm. The required installation hight is less than 2 m.

4 The compactness of the integrated indoor unit is emphasised by its sleek design and modern look, easily fitting with other household appliances.

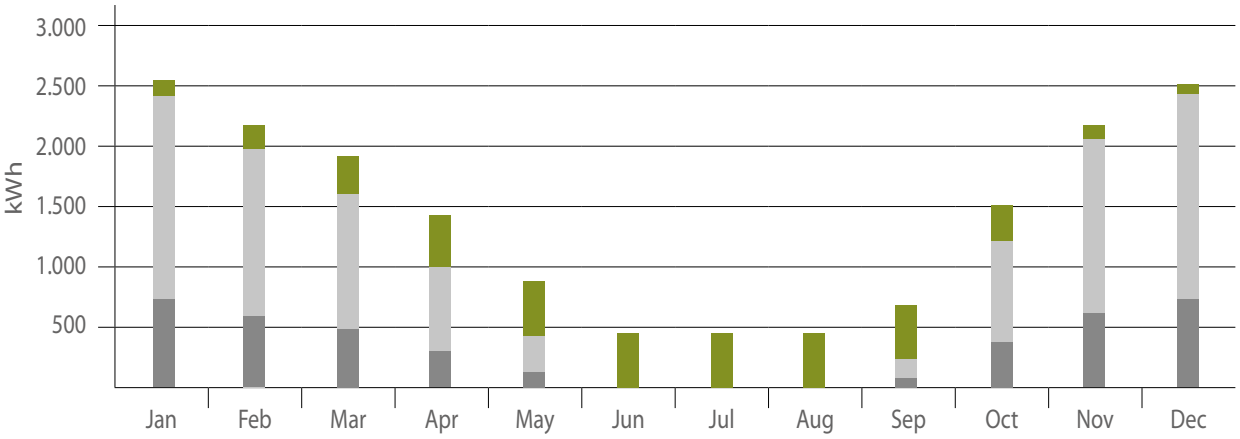
2. INTEGRATED SOLAR UNIT, MAXIMISING RENEWABLE ENERGY AND OFFERING TOP COMFORT

Solar support of domestic hot water with unpressurised (drain-back) and pressurised solar system

The integrated solar unit uses free energy from the sun and thus supports the production of domestic hot water. At its peak, 80% of solar energy can be converted into usable heat, made possible by the extremely high efficiency of our flat solar panels. Solar energy and heat pumps complement each other ideally in this application. The heat pump adds the required amount of heat to the system to meet demand.

The graphic shows when and how much the solar system supports the heating and hot water generation.

Combined with a heat pump, which also exploits regenerative ambient energy, the use of ancillary energy is reduced to an absolute minimum.



Depending on your customer's needs,
an unpressurised and pressurised system can be offered.

Unpressurised thermal hot water (with EHSX-A)
The solar collectors are only filled with water when sufficient heat is provided by the sun. In this case, both pumps in the control and pump unit switch on briefly and fill the collectors with storage tank water. After filling, which takes less than a minute, one of the pumps switches off and water circulation is maintained by the remaining pump.

If there is insufficient sunshine or if the solar storage tank does not need more heat, the feed pump switches off and the entire solar system drains into the storage tank. The addition of antifreeze is not necessary since, if the installation is not in use, the collector surfaces are not filled with water. Another environmental advantage!

Pressurised solar system (with EHSXB-A)
If needed, a pressurised thermal hot water system can also be offered. The system is filled with heat transfer fluid containing the correct amount of antifreeze to avoid freezing in winter. The whole system is pressurised and sealed.

Lightweight plastic tank with exceptional hygienic benefits

The integrated thermal store is water-hygienic and is state of- the-art technology. Thanks to the flow-through principle, legionella bacteria cannot grow, thus eliminating the need for a thermal disinfection cycle. Its exceptional water hygiene benefits have been confirmed in an extensive study by the Hygiene Institute at the University of Tübingen.

Bivalent option: combinable with a secondary heat source (EHSXB-A only)

Heat from other sources can also be efficiently stored in the indoor unit. A solar system can also be supported by oil-fired and gas-fired boilers, pellet-fired boilers or wood-fired stoves with back boilers for heating and hot water generation. If you are not installing a solar system directly, it can be fitted quickly and easily at any time afterwards.

App control possible

1. Control with the app
The controller takes over the entire management of the hot water production, the heart of the heating system, as well as the regulating function of the heat pump. This comprehensive management ensures the highest system efficiency and optimum convenience for heating, hot water and cooling. Simple consistent handling with intuitive menu navigation and control can be carried out via your smartphone with the app.

2. Clear display and easy modification
The display shows values and parameters in clear text. All operating modes, timer programmes and operating parameters can be set and modified quickly. Important system parameters can be accessed and adapted to your preferences by the technician.

3. Simple controller for easy regulation
The water temperature for the heating is regulated in accordance with the outdoor temperature. The controller automatically detects winter and summer, and switches the heating mode on and off to suit the demand. The controller is easy and intuitive to operate. It has an individually adjustable timer for convenient control of the heating circuit and hot water generation, and can be extended by the use of a room controller, which can be used conveniently to control and monitor the heating system.

3. WALL MOUNTED UNIT, OFFERING FLEXIBILITY FOR INSTALLATION AND DOMESTIC HOT WATER CONNECTION

The wall-mounted indoor unit

1. When no domestic hot water is required in combination with the Daikin Altherma system

- All hydraulic components are included in the heat pump unit (circulating pump, expansion vessel, back-up heater, etc), no need to look for third-party components
- All hydraulic components and the PCB board, are accessible from the front for easy serviceability
- Compact unit: 890 mm (height) x 480 mm (width) x 344 mm (depth)
- Small installation space as almost no side clearances are required
- Modern outlook easily fits in with other modern household appliances.

2. The wall-mounted indoor unit can be combined with a separate domestic hot water tank

- EKHWS stainless steel tank: 150l, 200l or 300l
- EKHWE enameled tank: 150l, 200l or 300l

3. When solar connection for hot water is required: Solar collectors

Averaged over an entire year, the sun delivers half of the energy we need to bring our domestic hot water up to the desired temperature. High efficiency collectors with highly selective coating transfer all the short-wave solar radiation into heat. The collectors can be mounted on roof tiles.

Unpressurised thermal hot water

The solar collectors are only filled with water when sufficient heat is provided by the sun. In this case, both pumps in the control and pump unit switch on briefly and fill the collectors with storage tank water. After filling, which takes less than a minute, one of the pumps switches off and water circulation is maintained by the remaining pump. If there is insufficient sunshine or if the solar storage tank does not need more heat, the feed pump switches off and the entire solar system drains into the storage tank. The addition of antifreeze is not necessary since, if the installation is not in use, the collector surfaces are not filled with water – another environmental advantage!

- EKHWP polypropylene tank: 300l or 500l with integrated solar pump station
- High efficiency as no glycol is needed in the system
- Well insulated tank to minimize heat loss
- Support for space heating possible
- Improved frost protection for snow covered solar collectors

Pressurised solar system

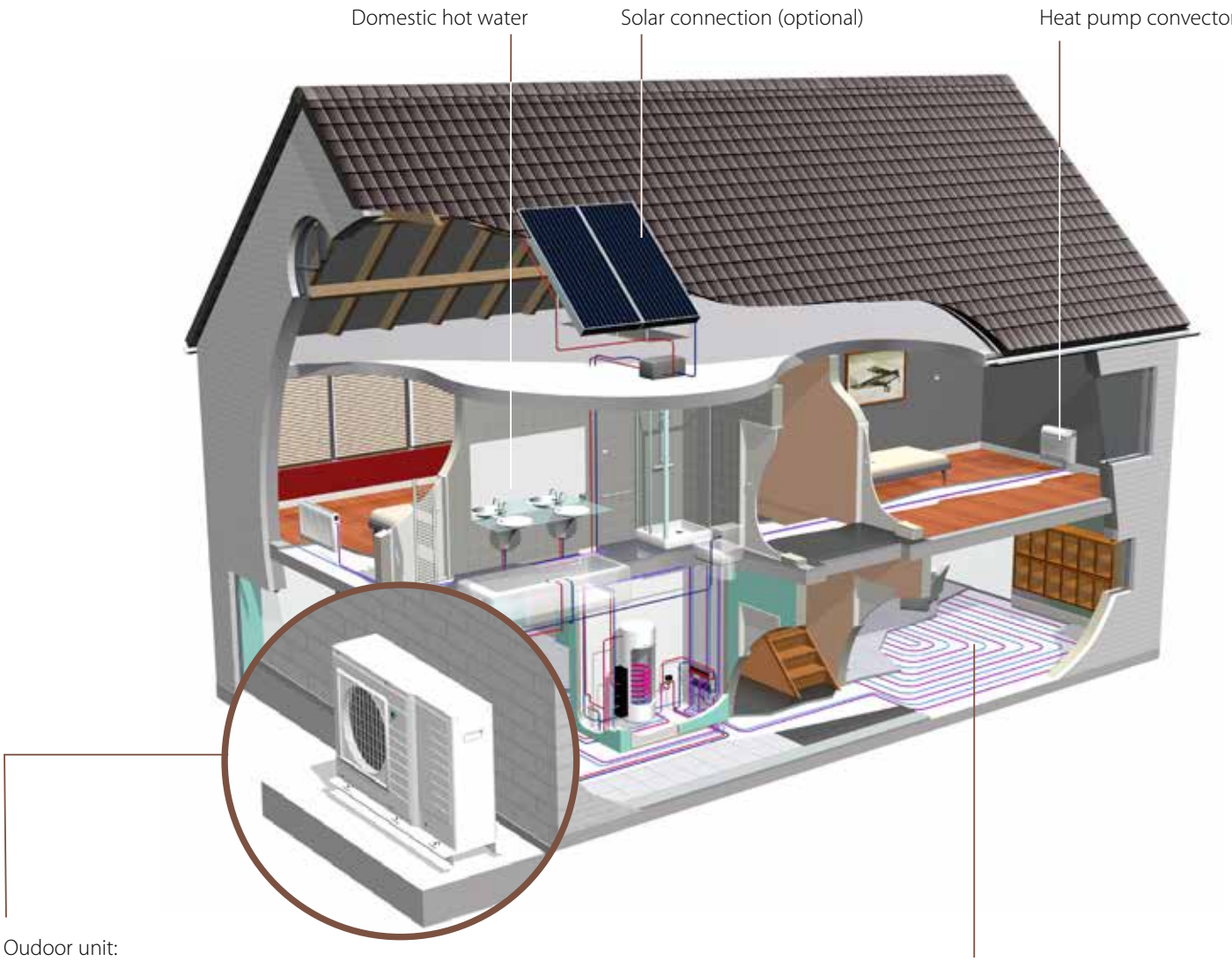
If needed, a pressurised thermal hot water system can also be offered. The system is filled with heat transfer fluid with the correct amount of antifreeze to avoid freezing in winter. The whole system is pressurised and sealed. A solar kit and solar pump station will be needed to connect the domestic hot water tank (EKHWS or EKHWE) to the solar collector.

Monobloc system

Everything combined in one outdoor unit

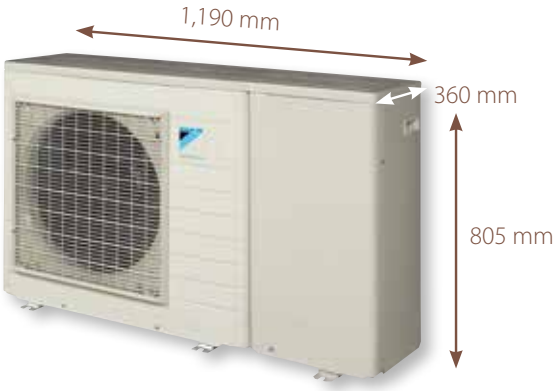
In addition to Daikin Altherma split systems, Daikin has introduced a monobloc version in which all hydraulic parts are located within the outdoor unit.
In this system, the water pipes, rather than the refrigerant pipes, run indoors from the outdoor unit, making installation much quicker and easier for the domestic installer.

Available capacities for monobloc: 6, 8 kW and 11, 14, 16 kW



1. OUTDOOR UNIT ONLY

Extra small casing



6kW and 8kW casing

H_2O piping, No refrigerant

11kW, 14kW and 16kW casing

Freeze protection of hydraulic parts

In order to protect the water pipes from freezing up during winter, insulation is provided for all hydraulic components and special software has been applied to activate the pump and back-up heater if necessary. This prevents the water temperature from dropping below freezing point and obviates the need for the addition of glycol to the water pipes.

Daikin Altherma monobloc is available in the following versions:

- heating only or heating and cooling
- with or without bottom plate heater
- single phase or three phase
- 6kW, 8kW, 11kW, 14kW or 16kW

Built-in electric back-up heater as additional heating during extremely cold outdoor temperature. The Daikin Altherma monobloc can be equipped with a 6 kW back-up heater, which can be adjusted to 3 kW (single phase units) or 2 kW (three phase units) by changing the wiring.

If necessary, an optional "in line" back-up heater of 6 kW can be mounted indoors (also adjustable to 2 kW or 3 kW)

Daikin Altherma small capacity models (6 to 8 kW) are equipped with a swing compressor. Swing compressors have been setting trends in the area of energy efficient performance for the past 10 years (leaks and friction are basically non-existent) in thousands of outdoor units.

The scroll compressors provided in the Daikin Altherma monobloc models (11 to 16 kW) are designed as compact, robust, low-noise device to guarantee optimal operational reliability (no valves and built-in swing-link coupling) and efficiency (through a low initial flow and a constant compression ratio). A technology already used in many Daikin heat pumps.

2. DOMESTIC HOT WATER TANK AND SOLAR SUPPORT

Whether your customer wants domestic hot water only or the advantage of solar energy, Daikin offers you the domestic hot water tank that meets his or her requirements.

EKHWS / EKHWE
Domestic hot water tank

- Available in 150,200 and 300l
- Stainless steel (EKHWS) or enameled (EKHWE)

Pressurised solar system

Averaged over an entire year, the sun delivers half of the energy we need to bring our domestic hot water up to the desired temperature. High efficiency collectors with highly selective coating transfer all the short-wave solar radiation into heat. The collectors can be mounted on roof tiles.

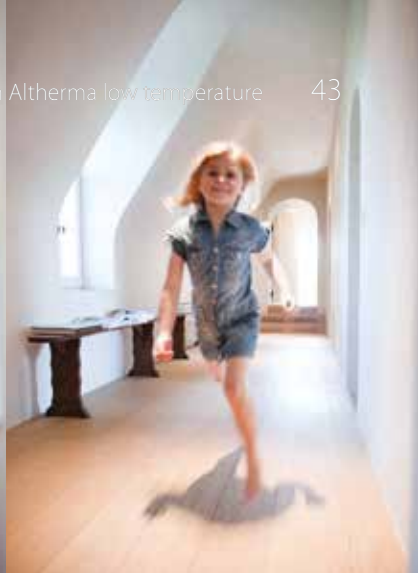
If needed, a pressurised thermal hot water system can also be offered. The system is filled with heat transfer fluid with the correct amount of antifreeze to avoid freezing in winter. The whole system is pressurised and sealed. A solar kit and solar pump station will be needed to connect the domestic hot water tank (EKHWS or EKHWE) to the solar collector.

EKHWP
Domestic hot water tank with unpressurised solar support

- Available in 2 capacities: 300 and 500 litres
  - › Can be combined with unpressurised solar system
  - › Optimised connections
- Easier installation of each system circuit
  - › Improved design: attractive colour and new form
  - › Optimised for easy transport and installation
  - › Better insulation means reduced energy costs
  - › Higher flow-rate thanks to optimised connection technology
  - › Clear connections mean easier installation

Unpressurised thermal hot water

The solar collectors are only filled with water when sufficient heat is provided by the sun. In this case, both pumps in the control and pump unit switch on briefly and fill the collectors with storage tank water. After filling, which takes less than a minute, one of the pumps switches off and water circulation is maintained by the remaining pump. If there is insufficient sunshine or if the solar storage tank does not need more heat, the feed pump switches off and the entire solar system drains into the storage tank. The addition of antifreeze is not necessary since, if the installation is not in use, the collector surfaces are not filled with water – another environmental advantage!



3. EASY CONTROL

System controller

Weather dependant floating set point

When the floating set point functionality is enabled, the set point for the leaving water temperature will be dependant on the outside ambient temperature. At low outside ambient temperatures, the leaving water temperature will increase to satisfy the increasing heating requirement of the building. At warmer temperatures the leaving water temperature will decrease to save energy.

Optional room thermostat

An external sensor (EKRTETS) can be placed between the under floor heating and the floor, as an option to the wireless room thermostat. The thermostat measures the room temperature and communicates directly to the user interface. The LCD screen of the room thermostat indicates all the necessary information regarding the setting of the Daikin Altherma system in the blink of an eye. The user can easily navigate between the different menus, the most common of which include:

- Setting the temperature of the room based on measurements from the built-in or external sensor
- Cooling and heating mode
- Off function (with integrated frost-protection function)
- Holiday function mode
- Comfort and reduced function modes
- Time (day and month)
- Programmable week-timer with 2 user defined and 5 pre-set programmes, with up to 12 actions per day
- Keylock function
- Setting limits. The installer can change the upper and lower limits
- Floor temperature protection and protection against condensation for under floor cooling *

* only in combination with EKRTETS

Heat pump convector

The heat pump convector unit can provide both heating and cooling if required, since the heat pump convector is more than just a fan coil unit. The heat pump convector also has a very low noise level.

When combining under floor heating and fan coil units, the low leaving water temperatures, important for efficiency, are adequate for under floor heating, but the fan coil units then need to be oversized in order to emit the proper levels of heat at these low water temperatures. The heat pump convector solves this problem. The heat pump convector is able to emit the required levels of heat at low leaving water temperatures, while retaining a modest size.

Instead of the leaving water circuit being switched on and off via a thermostat in a single master room, each heat pump convector can be directly wired to the Daikin Altherma indoor unit, the system's intelligence centre. This allows all rooms to have heat when required, regardless of the state of the other rooms.

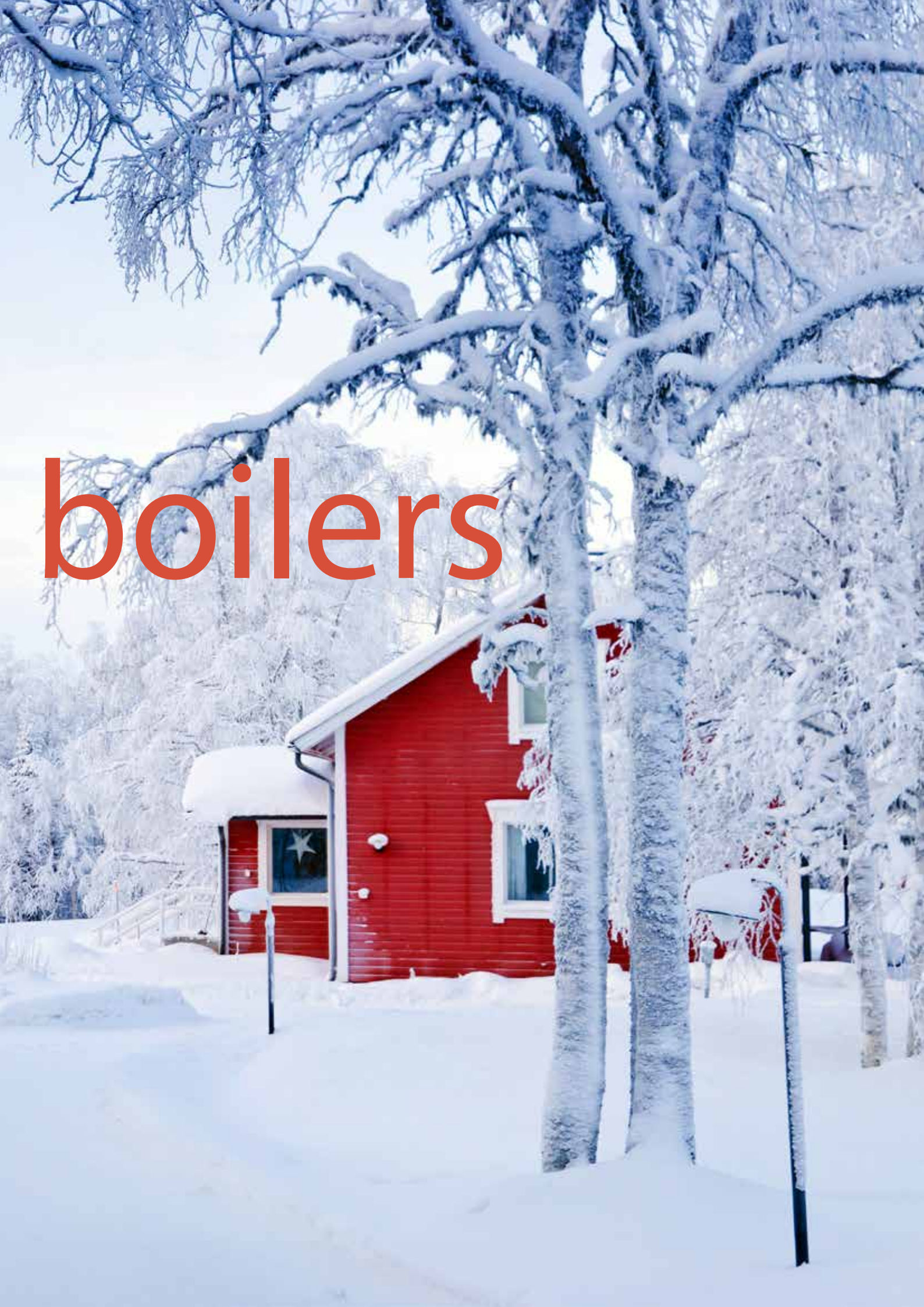
The heat pump convector saves on running costs thanks to the improved efficiency by approximately 25% compared to a heating system that combines under- floor heating and regular fan coil units. The heat pump convector can easily replace existing heat emitters, thanks to its plug and play installation.

Heating and domestic hot water

for new build and replacement of

Geothermal energy is a free source of energy for heating, and domestic hot water. It delivers enormous **cost savings** in even the coldest climates as the energy is at a relatively constant temperature all year round. The **compact design** of the inside unit requires very little space whilst, at the same time, making the system very **easy and quick to install**. And, once commissioned, our easy, **user-friendly controls** put the user in complete command.

Daikin Altherma ground source heat pump


boilers

Ground source heat pump

What is a ground source heat pump?

Even in the coldest climates, geothermal heat is present in the ground resulting in a fairly constant temperature of 10°C at depth of five metres. This trapped energy represents a source of heat that the ground source heat pump at the heart of our system can tap into to heat the home.

Using either a ground probe or a surface collector just below the surface, a water/anti-freeze mixture called 'brine' is pumped round the circuit as a heat transfer medium. The brine then passes into the heat pump unit itself where the heat is transferred to a low evaporation point refrigerant that is compressed to produce heating or domestic hot water.

Why choose a ground source heat pump?

The simple answer is because it is more efficient than an air-to-water heat pump when the average winter ambient temperature drops below 3°C.

For example, as in the Oslo region more than 70% of heating occurs when the outdoor temperature is below 3°C, the ground source heat pump is the most efficient solution, thanks to having access to a stable energy source that is unaffected by the ambient temperature.

In addition, the Daikin Altherma ground source heat pump has very stable heating capacities at low ambient temperatures and there is no need for an outdoor unit. This delivers two major benefits: firstly, it is easier to install as there is no outdoor unit involved and so no refrigerant connections need to be made, and secondly, there is no de-frost cycle involved and this increases the total indoor comfort levels.

Making a difference

Due to high efficiencies resulting from our inverter technology, the Daikin Altherma ground source heat pump provides a leading edge performance in comparison to the on/off units that make up the majority of the market.

1. HIGH SEASONAL EFFICIENCY THANKS TO OUR INVERTER HEAT PUMP TECHNOLOGY

The Daikin inverter heat pump technology has been shown to provide an increase in seasonal efficiency of up to 20% when compared to traditional on/off ground source heat pumps.

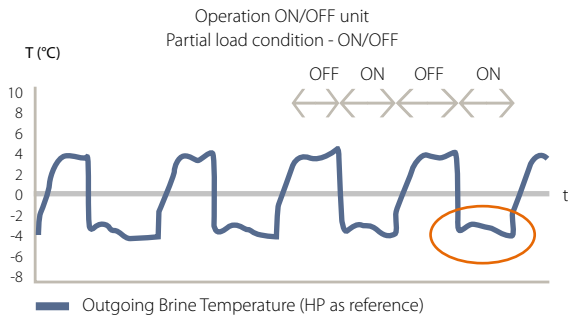
- The brine, a water/anti-freeze mixture that operates as heat transfer medium between the ground and the heat pump, is kept at a higher stable temperature
- Back up operation is reduced to a minimum
- High operating efficiencies of the compressor are reached at partial load operation, i.e. when no full capacity of the unit is required.
- This results in **reduced running costs** and a f**aster return on investment**.

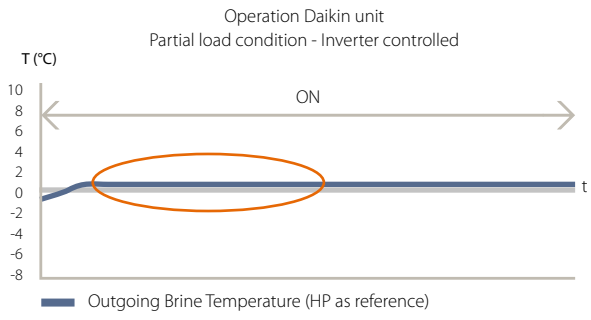
Higher brine temperatures during continuous compressor operation, in partial load conditions

Typical application:

- Location: Sweden
- Design temperature: -17°C
- Heat load: 13kW
- Heating off temperature: 16°C

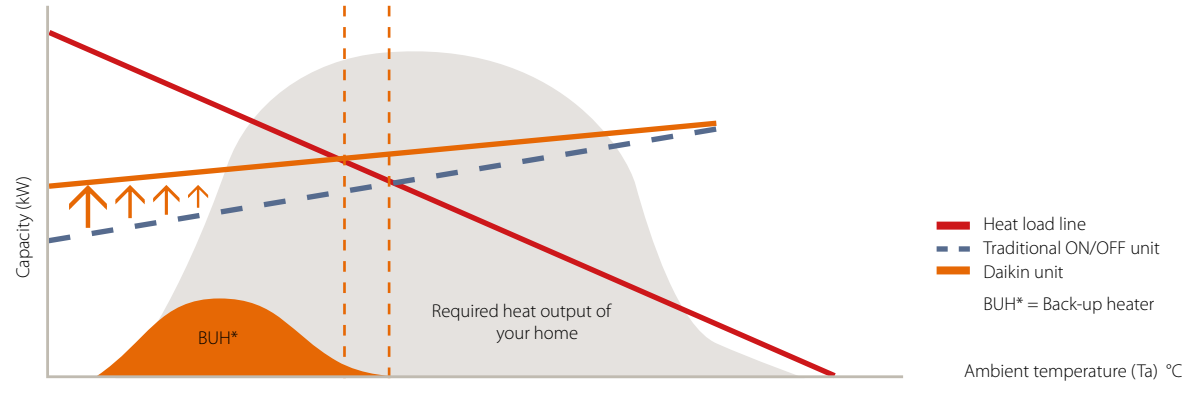
Case study





When no full capacity is required of the system the compressor works in partial load. In partial load conditions, a traditional on/off ground source heat pump sequently switches ON and OFF, whereby the brine temperature decreases down to -4°C when the unit is operating. Daikin's inverter technology results in a stable outgoing brine temperature of around 0°C. This increased stability in brine temperature results in a higher and more constant evaporating temperature which leads to higher operating efficiencies.

Less back up heater operation thanks to the boosting of the inverter compressor frequency



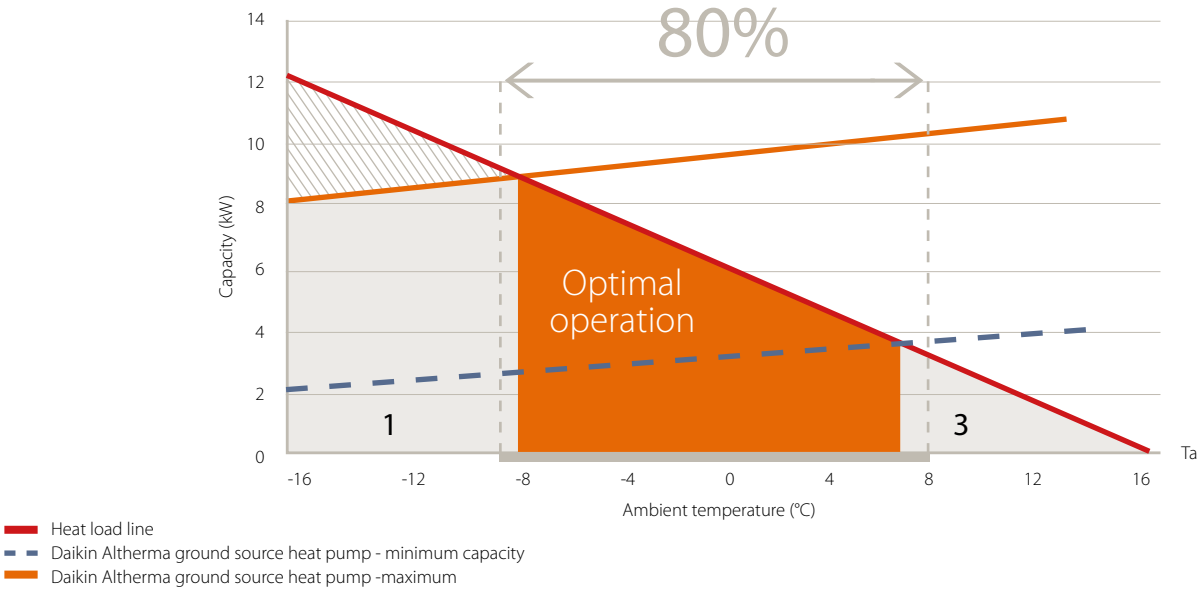
Compared to a traditional On/Off unit, the requirement for support from the back up heater is much lower for the Daikin Altherma ground source heat pump, thanks to the boosting effect of our inverter compressors, also this leads to lower running costs.

Big partial load operation at relevant ambient conditions

Case study

Typical Nordic climate application with standard heat load :

- Location: Sweden
- Design temperature: -17°C
- Heat load: 12kW



1 Full load operation with additional electric assistance (if required): the heat load is higher than the maximum heating capacity

2 Partial load operation: the heat load is lower than the maximum heating capacity and higher than the minimum heating capacity. This is the optimal operation zone. The compressor will reduce its operating frequency to deliver the exact required capacities with high operating efficiencies.

3 On/Off operation: The heat load is below the minimum heating capacity, therefore the unit will go into On/Off mode to deliver the required capacity.

In a Nordic climate, around 80% of the required heat output has to be delivered in an ambient temperature range between -9°C and 8°C, indicated by the orange zone.

To deliver a high seasonal Coefficiency of Performance (COP), it is crucial to have high operating efficiencies for this ambient temperature range as the majority of the required heat has to be delivered within this temperature range. As you will see, thanks to its wide modulating range, the Daikin Altherma ground source heat pump almost completely covers the relevant ambient temperature range whilst in partial load operation, which it the optimal operational zone of the unit. This is, of course, a major benefit compared to traditional On/Off compressors.

2. QUICK AND EASY INSTALLATION INCLUDING A DOMESTIC HOT WATER TANK

To keep things simple, the domestic hot water tank is factory-fitted, thus reducing the installation time and with the pipework connections on the top of the unit it is very easy to connect.

The overall weight of the unit is reduced to facilitate ease of shipping and installation.

3. COMPACT INDOOR UNIT WITH PLEASING DESIGN

- The full integration of heat pump module and domestic hot water tank keeps the footprint very compact
- High quality design helps the unit blend in with other household units

The footprint of the integrated unit is 728mm x 600mm - about the same as a normal household appliance - and at 1800mm high, it fits neatly in any standard room. A further benefit to both the installer and the user is that only 10mm side clearance is required and all the pipework connections are on top of the heat pump unit.

4. NEW USER INTERFACE

- Quick commissioning: the installer can program all the settings for an installation on a laptop computer and then simply upload them to the controller during commissioning. This not only reduces on-site time, but allows the installer to use similar setting on similar installations.
- User-friendly room thermostat functionality: the user can raise or lower water temperature as a function of the actual room temperature, resulting in a more stable room temperature and higher comfort levels.
- Energy management functionality: the controller displays both the output and input energy of the unit allowing the user to manage their energy consumption more accurately.
- Easy servicing: the controller records the time, date and nature of the last 20 Error occurrences enabling quicker diagnostics and maintenance.

Heating, domestic hot water and cooling

for residential and commercial applications

Daikin Altherma Flex Type is the **flexible solution for space heating, domestic hot water and cooling.** It provides **total climate control in places as apartments, social housing, schools, hospitals, libraries, spas, fitness centres and hotels**. A mix of intelligent solutions and advanced control technologies makes Daikin Altherma Flex Type the ultimate choice in controllable comfort for residential and commercial buildings.

The system embraces Daikin's two core ambitions: **innovation** and **reducing the environmental footprint**. Altherma Flex Type meets the EU's ambitious environmental targets for 2020. In these, the EU aims for all new buildings to consume a minimum of energy and thus to be a **"nearly Zero-Energy Building"** or nZEB.

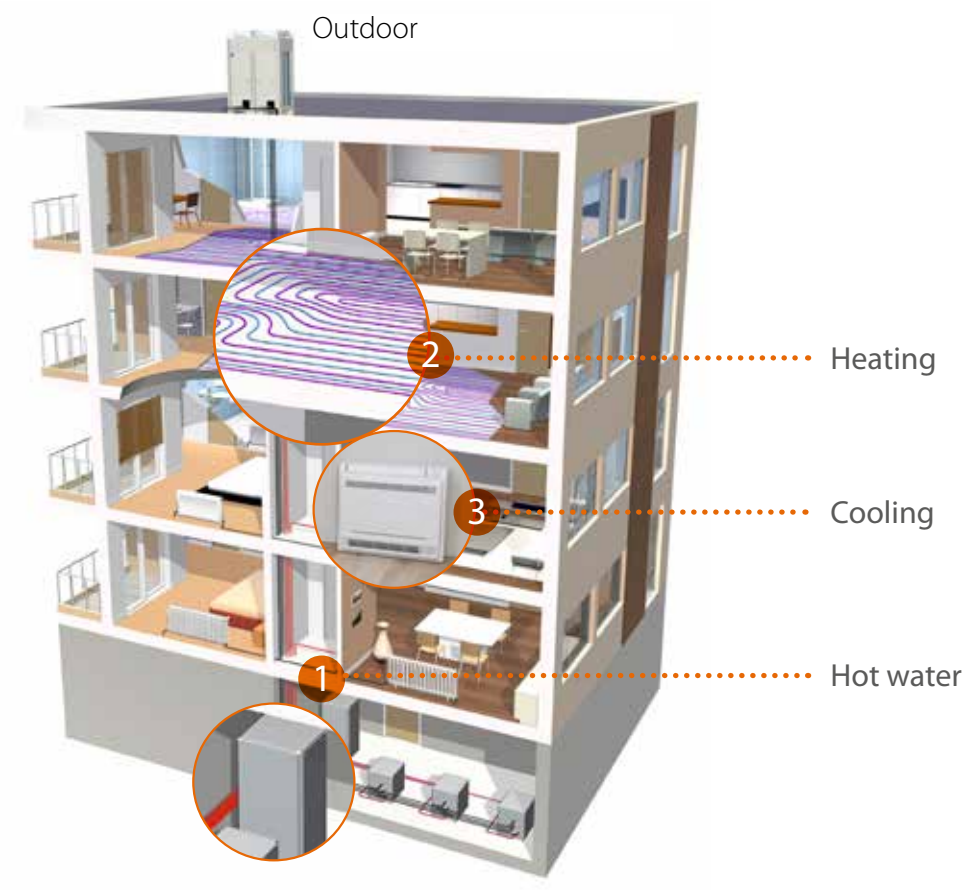
Daikin Altherma Flex Type

More benefits of advanced design:

- High efficiency results in low operating costs
- Individual or centralised control
- Reliable solutions for hot water and heating
- Cooling in the most efficient way
- Large hot water volume
- Green energy solutions
- Advanced control and monitoring for high efficiency and ease of operation
- Limited installation space thanks to small footprint of indoor unit and outdoor unit

8 benefits 4 any application

Daikin Altherma Flex Type for residential and commercial applications is a 3-in-1 system offering heating, domestic hot water and cooling all-in-one, which is highly energy efficient thanks to Daikin's advanced heat pump technolgy. Further more, Daikin Altherma Flex Type is a modular system. Depending from your project one or more outdoor units can be combined with up to ten indoor units per outdoor unit.



Outdoor unit

One or more outdoor units
+ several indoor units
>> a modular system

Indoor installation

Indoor unit

Domestic hot water tank

Apartment buildings & collective housing

Daikin Altherma Flex Type is designed with the particular challenge of apartment building and collective housing in mind.
High efficiency is ensured by the combination of technologies with low operating costs as a result. Next to central control, the latest integrated control technologies also allow the temperature of each residential space to be individually regulated and maintained.

Hotels

Daikin Altherma Flex Type offers reliable solutions for hotel applications. The system generates efficiently hot water in both heating and cooling modes. Thanks to the advanced cascade technology the rooms are cooled in the most efficient way.

Restaurants

Highly efficient production of large hot water volume also makes the system a perfect solution for restaurants. With its very low environmental impact the system represents a perfect green energy solution.

Spas and leisure

All types of hot water applications

Daikin Altherma Flex Type easily provides heating and cooling to a large number of rooms of varying sizes, while at the same time large volumes of hot water are also needed. Advanced control and monitoring assure highly efficient operation. Furthermore only limited installation space is required.

1. TWO DAIKIN TECHNOLOGIES COMBINED

OUTDOOR UNIT: Daikin VRV technology

Modular flexibility

The Daikin Altherma makes use of Daikin's renowned VRV technology. Multiple indoor units can be connected to a single outdoor unit. A combination of Proportional Integral Derivative controlled compressors and electronic expansion valves in the outdoor unit continuously adjust the circulating refrigerant volume in response to load variations in the indoor units connected to it.
This allows the indoor units to operate independently of each other, assuring total flexibility.

Each apartment retains control of its own heating, hot water and cooling.

Heat recovery

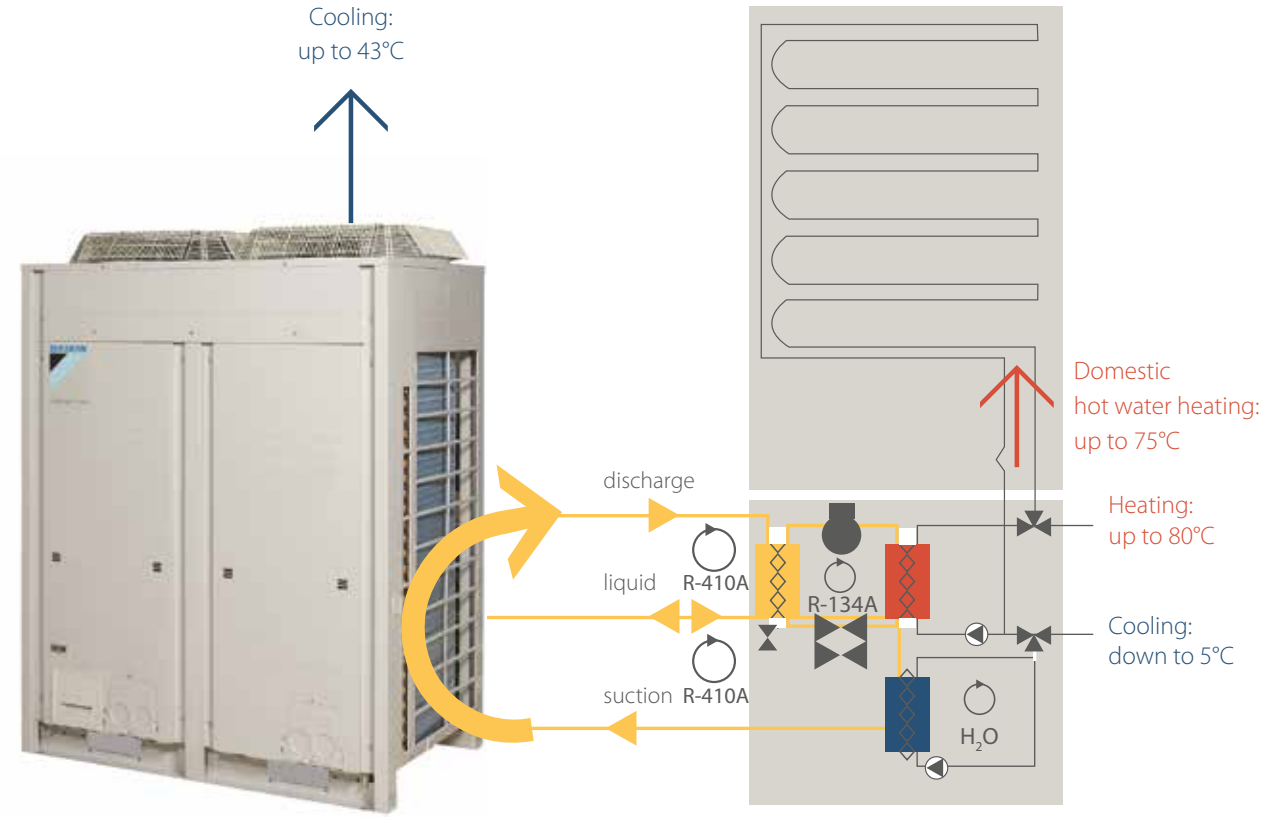
Heat absorbed while cooling one apartment can be recovered instead of being simply released into the air. This recovered heat can be used

- for domestic hot water production in the same apartment
- for space heating and domestic hot water production in other apartments

Maximum use is made of available energy, thus reducing electricity costs.

Inverter compressors

Daikin Altherma Flex Type owes its remarkable low energy consumption to a unique combination of highly efficient inverter-controlled Daikin compressors with a variable operating point. This allows capacity to be exactly matched to the actual heating demand of the building. The ability to optimally control the heat capacity of the outdoor unit also means maximum comfort and minimum energy consumption.



INDOOR UNIT: Daikin Altherma cascade technology

The Daikin Cascade technology uses an outdoor unit that extracts heat from the surrounding air and transfers this to the indoor unit via a R-410A refrigerant circuit. The indoor unit then increases this heat via the R-134a refrigerant circuit and it is then used to heat the water circuit. Using the unique cascade compressor approach, water temperatures of 80º C can be achieved without additional back-up heaters.

Space heating

Daikin Altherma Flex Type makes use of the cascade technology to improve the efficiency of the spacing heating supplied because it has a number of significant advantages over single refrigerant heat pumps:

- it provides for a wide range of water temperatures (25º - 80ºC) which enables all types of heat emitters to be connected including under floor heating, convectors and radiators and it is compatible with existing radiator systems
- there is no drop in capacity with increasing water temperatures
- it delivers high capacities at low ambient temperatures right down to -20ºC
- No back-up electrical heater is required

Domestic hot water heating

The cascade technology also delivers water temperatures of 75°C that can be used to heat up the domestic hot water tank, which makes it highly efficient for the production of domestic hot water.

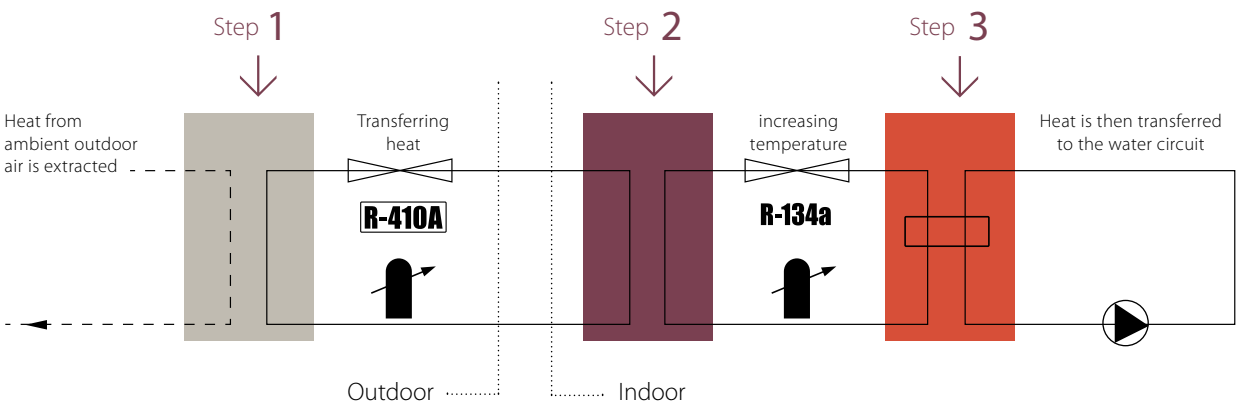
- Domestic hot water can be produced up to 75° C, without the assistance of an electric heater
- No electric heater required for Legionella disinfection
- COP of 3.0 for heating from 15° C to 60° C
- Heat-up time from 15° to 60° C in 70 minutes (200L tank)
- Equivalent hot water volume of 320L at 40° C (without reheat) for a 200L tank at a tank temperature of 60°C. Higher volumes of equivalent hot water are available with the 260l tank, or using a higher tank temperature.

Cooling

The second refrigerant cycle R-134a can be bypassed to offer efficient cooling. The R-410A refrigerant cycle is reversed, and the cool water circuit can be used to cool the rooms.

- High cooling capacities with water temperatures down to 5°C, in combination with Daikin heat pump convector or Daikin fan coil units
- Under floor cooling is possible, with water temperatures down to 18° C
- Heat from cooling operation can be recovered to heat the domestic hot water tank

Cascade technology



2. DOMESTIC HOT WATER TANK

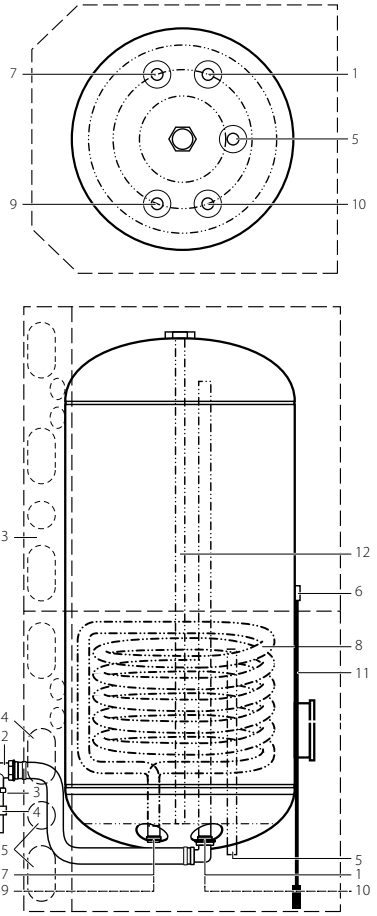
The indoor unit and domestic hot water tank can be stacked to save space, or installed next to each other, if only limited height is available.

EKHTS: Domestic hot water tank

- Available in 200 and 260 litres
- Efficient temperature heat-up: from 10°C to 50°C in only 60 minutes*
- Heat loss is reduced to a minimum thanks to the high quality insulation
- At necessary intervals, the indoor unit can heat up the water to 60°C to prevent the risk of bacteria growth.

* Test done with a 16kW outdoor unit at ambient temperature of 7°C 200L tank

Stacked or Non-stacked



1. Hot water connection
2. T-piece (field supply)
3. Pressure relief valve connection
4. Pressure relief valve (field supply)
5. Recirculation hole
6. Thermistor socket
7. Flow inlet connection
8. Heat exchanger coil
9. Return outlet connection
10. Cold water connection
11. Thermistor
12. Anode
13. Knockout holes
14. Knockout holes

3. EASY CONTROL

System controller

The user interface controls the high temperature heating system in two ways:

1/ Weather dependant floating set point

When the floating set point functionality is enabled, the set point for the leaving water temperature will be dependant on the outside ambient temperature. At low outside ambient temperatures, the leaving water temperature will increase to satisfy the increasing heating requirement of the building. At warmer temperatures the leaving water temperature will decrease to save energy.

2/ Thermostat control

With Daikin Altherma's user interface with integrated temperature sensor, the ideal temperature can be easily, quickly and conveniently regulated.
The easy-to-control user interface for high temperature applications guarantees your comfort:

- Space heating
- Quiet mode
- Setback function
- Disinfection function
- Off function
- Time scheduler
- Domestic water heating mode

Optional room thermostat

An external sensor (EKRTETS) can be placed between the under floor heating and the floor, as an option to the wireless room thermostat. The thermostat measures the room temperature and communicates directly to the user interface.

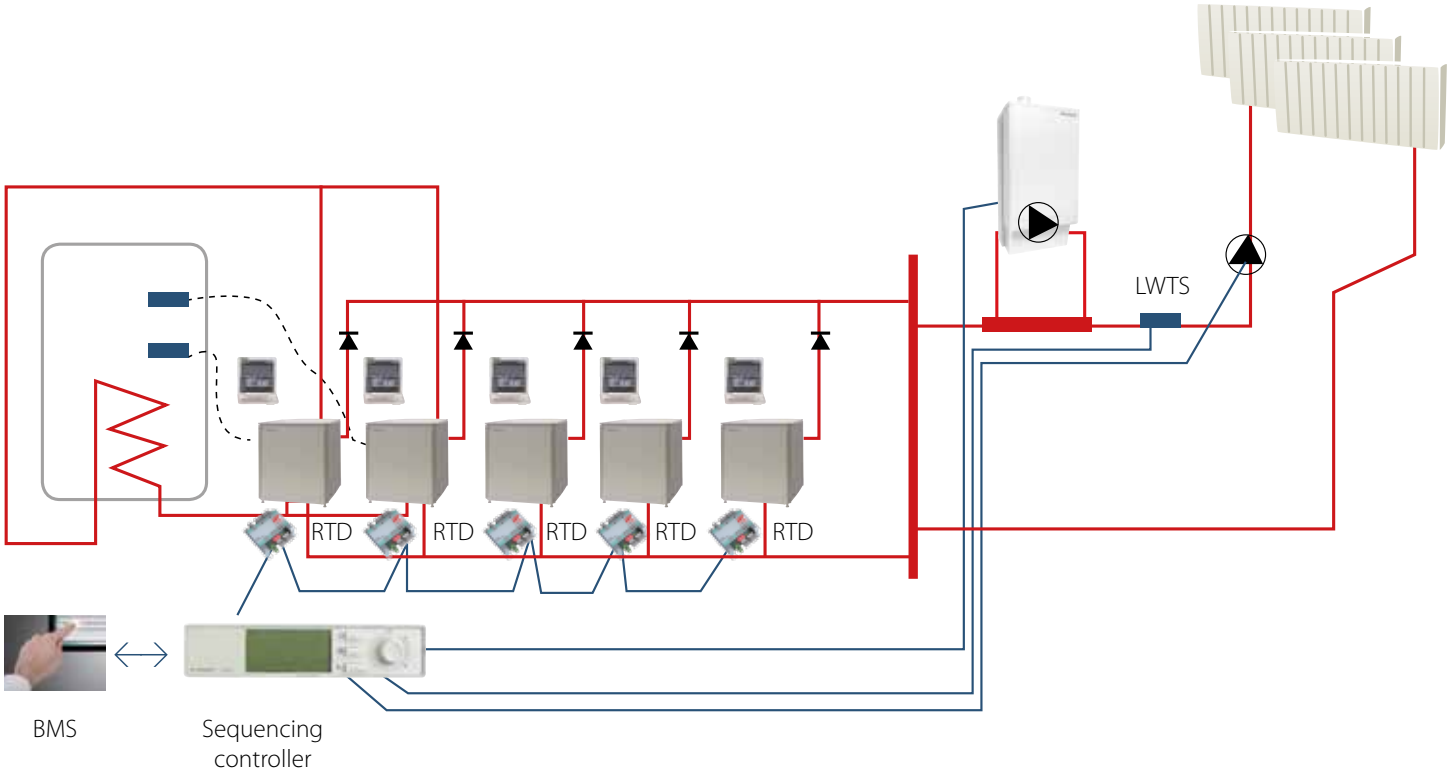
The LCD screen of the room thermostat indicates all the necessary information regarding the setting of the Daikin Altherma system in the blink of an eye. The user can easily navigate between the different menus, the most common of which include:

- Setting the temperature of the room based on measurements from the built-in or external sensor
- Cooling and heating mode
- Off function (with integrated frost-protection function)
- Holiday function mode
- Comfort and reduced function modes
- Time (day and month)
- Programmable week-timer with 2 user defined and 5 pre-set programmes, with up to 12 actions per day
- Keylock function
- Setting limits. The installer can change the upper and lower limits
- Floor temperature protection and protection against condensation for underfloor cooling *

* only in combination with EKRTETS

Advanced control and monitoring for high efficiency and ease of operation

To further increase the efficiency, an **RTD-W** per indoor unit and a **sequencing controller** for the full heating system can be installed to monitor the exact heating demand.



RTD-W interface

Daikin's RTD control systems allow the company's entire product portfolio to be integrated fully with other building systems. Designed for a wide range of applications, their pre-programmed functions ensure systems are highly efficient, delivering reduced energy consumption and carbon emissions, while maintaining excellent levels of comfort.

Whatever the application, Daikin's RTD controls mean all systems can be controlled centrally, helping owners, building managers, operators and home owners to reduce energy consumption (and bills), as well as lowering carbon emissions.

The RTD-W control uses dry-contacts, 0-10V signal and Modbus interface to monitor, control and integrate domestic and commercial hot water and heating systems.

Sequencing controller

Thanks to the Modbus interface of the RTD-W, the sequencing controller (EKCC7-W) can centrally monitor the whole heating system.

The sequencing controller transfers centralised settings and control through Modbus to the units:

- weather dependent leaving water set point and schedule
- domestic hot water set point and schedule
- quiet mode schedule

A centralised overview of the operating conditions of all units is shown on one screen, including error history.

A main energy reducing function is the cascade operation of units. The number of operating indoor units is defined based on the difference between measured common leaving water temperature and the set point. The order of start-up of the units is determined by running hours, domestic hot water operation and grouped per outdoor unit.

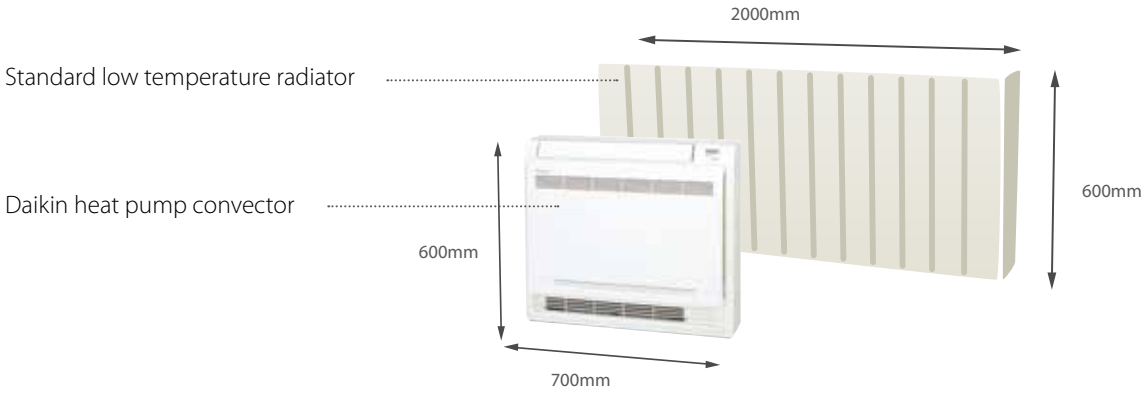
In case of capacity shortage and unit alarm, the back-up heater operation is enabled by the sequencing controller.

The advanced monitoring of the heating system ensures the **building owner** a low energy bill and a clear view on the operation of the system. The **installer** has a clear view on the error history if intervention is needed.

4. HEAT PUMP CONVECTOR

The Daikin heat pump convector operates at typical water temperatures of 45°C, which can be efficiently produced thanks to the Daikin Altherma cascade technology.
The heat pump convector is therefore the ideal heat emitter for apartment applications, providing high comfort levels:

- Small dimensions compared to low-temperature radiators: width is reduced with 2/3rd

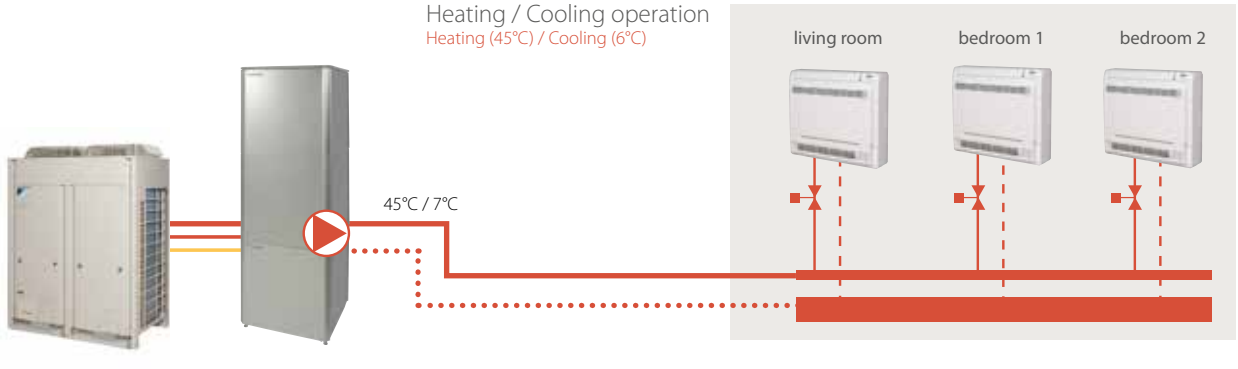


- Low sound level down to 19 dB(A), optimal for bedroom applications
- High-capacity cooling with water temperatures down to 6° C

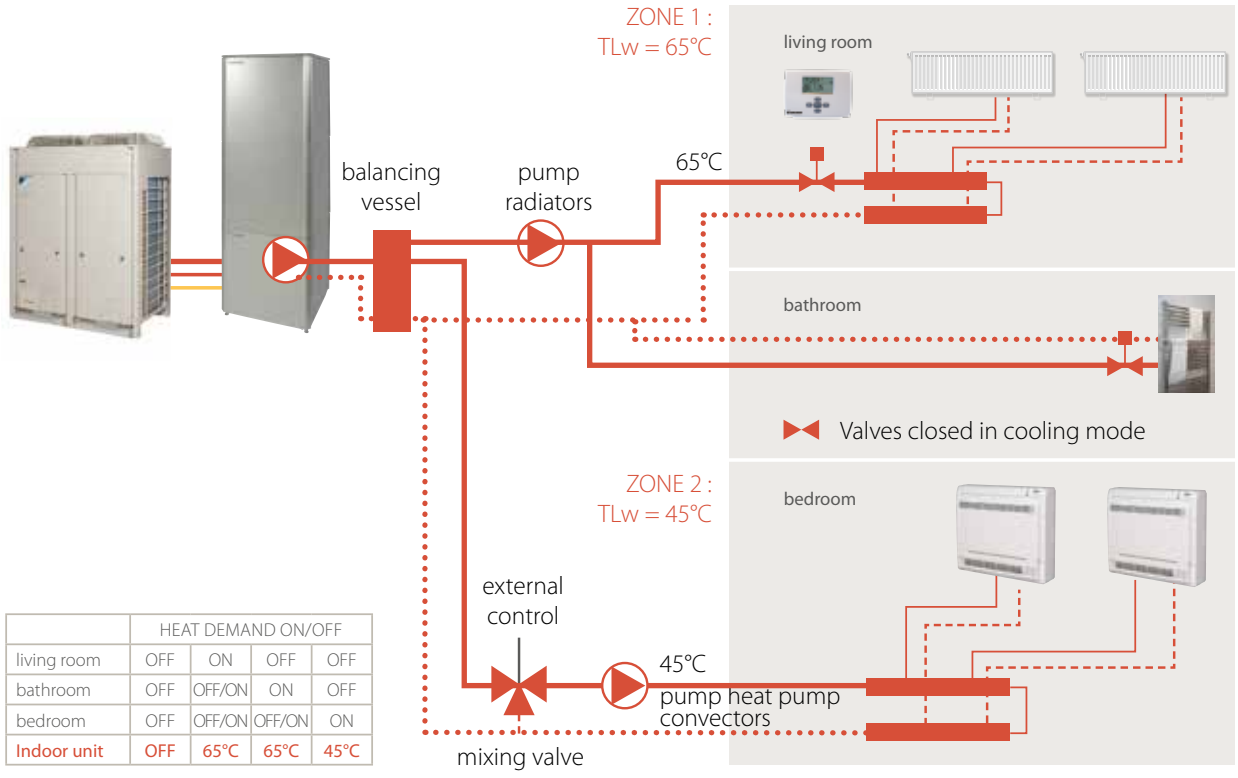
Control

Each Daikin heat pump convector has its own control and every room can be independently heated (or cooled) as required. The remote control has a built-in weekly timer for optimum flexibility and comfort. Operation of the unit can be adapted to individual requirements.

Infrared remote control (Standard)
ARC452A15



All types of heat emitters can be connected to Daikin Altherma for apartment buildings and collective housing, thanks to its wide water temperature range and its ability to work with multiple set points, allowing a combination of different heat emitters operating at different water temperatures. The set point of the indoor unit is a function of the actual demand of the various heat emitters, ensuring optimum efficiency at all times and under all conditions.



	HEAT DEMAND ON/OFF			
living room	OFF	ON	OFF	OFF
bathroom	OFF	OFF/ON	ON	OFF
bedroom	OFF	OFF/ON	OFF/ON	ON
Indoor unit	OFF	65°C	65°C	45°C

At your service, with the Daikin

selection

Daikin worked out three selection tools for an accurate estimation of your specific project and doing so Daikin provides a maximum of comfort, even in the early stage of choosing! / even when considering the options!

Make a quick estimation of savings on running costs and savings on CO_2 emissions thanks to the **Energy Savings Calculator**. The Daikin Altherma **simulation software** provides for every specific application an appropriate heat pump selection based on the specific house and location details. And for new houses or renovations the Daikin Altherma **selection and simulation software** allows quick and easy identification of the optimal mix of components.

tools

1. ENERGY SAVINGS CALCULATOR

Daikin provides a web-based tool to give a quick estimation of savings on running costs and savings on CO_2 emissions. Based on a few inputs from the customer (location, house type, floor area, number of people), a comparison is made between the Daikin Altherma heat pump system and traditional heating systems. This comparison includes the space heating and domestic hot water heating. This is available for both new builds and refurbishment applications.
http://ecocalc.daikin.eu

2. SIMULATION SOFTWARE

The Daikin Altherma simulation software provides for every specific application an appropriate heat pump selection, taking into account the needs of the building and specific climate data. An installer can provide the following data:

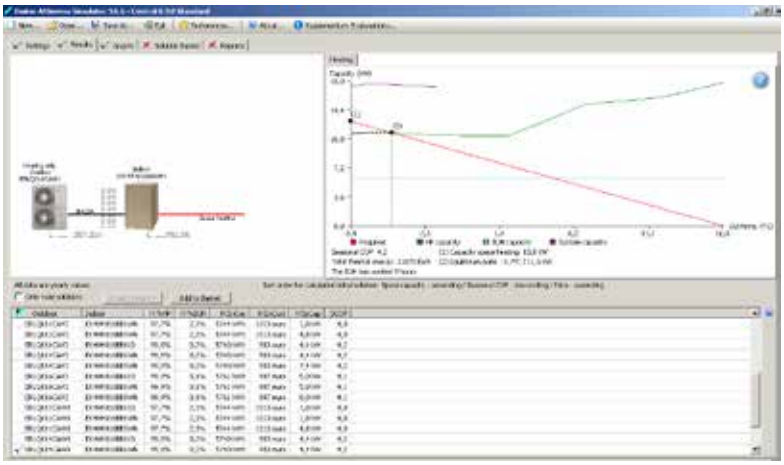
- house application: heat/cool load, water temperatures, power supply
- climate conditions: location, design temperature
- domestic hot water requirements: tank volume, material, solar connection
- preferences: "heating off" temperature, night setback function

Based on the specific house and location details, the software provides a full dimensioning assuring a correct material selection.

As well as a full material selection, the software provides detailed information for the installer and the end-user, on the expected outcome of the specified Daikin Altherma unit for its specific application and climate:

- seasonal efficiency of the heat pump system
- amount of back-up heater operation
- energy consumption and energy cost per month
- savings on running costs compared to traditional heating systems

All this information will be summarised in a detailed report.



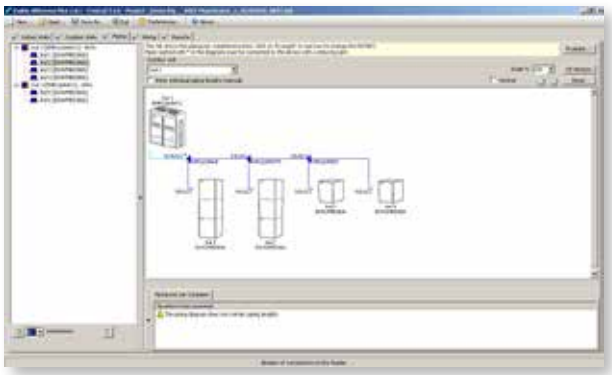
Check your local Daikin website for availability of this simulation software.

3. SELECTION AND DESIGN SOFTWARE FOR DAIKIN ALTHERMA FLEX TYPE

The Daikin Altherma selection and simulation software for new houses or renovations allows quick and easy identification of the optimal mix of components. It automatically selects indoor and outdoor units based on the required heat loads per housing unit and calculates the required refrigerant piping dimensions.

The software also features:

- automatic or manual selection of indoor units
- automatic selection of outdoor units
- calculation of refrigerant piping diameters
- automatic selection of refnet headers and joints
- creation of piping and wiring diagrams with the possibility to export them as DXF file
- creation of extensive selection report



Technical specifications

1. DAIKIN ALTHERMA LOW TEMPERATURE

FLOOR STANDING UNIT

HEATING ONLY

INDOOR UNIT					EHVH04S18CB3V	EHVH08S18CB3V EHVH08S26CB9W	EHVH08S18CB3V EHVH08S26CB9W	EHVH16S18CB3V EHVH16S26CB9W	EHVH16S18CB3V EHVH16S26CB9W	EHVH16S18CB3V EHVH16S26CB9W	EHVH16S18CB3V EHVH16S26CB9W	EHVH16S18CB3V EHVH16S26CB9W	EHVH16S18CB3V EHVH16S26CB9W
Casing	Colour				White								
	Material				Precoated sheet metal								
Dimensions	Unit	HeightxWidthxDepth		mm	1,732x600x728								
Weight	Unit			kg	115	116/126	116/126	120/129	120/129	120/129	120/129	120/129	120/129
Operation range	Heating	Ambient	Min.~Max.	°C	-25~25			-25~35					
		Water side	Min.~Max.	°C	15~55								
	Domestic hot water	Ambient	Min.~Max.	°CDB	-25~35			-20~35					
		Water side	Min.~Max.	°C	25~60								
Sound power level	Nom.			dBA	42			47					
Sound pressure level	Nom.			dBA	28			33					

OUTDOOR UNIT					ERLQ004CV3	ERLQ006CV3	ERLQ008CV3	ERLQ011CV3	ERLQ014CV3	ERLQ016CV3	ERLQ011CW1	ERLQ014CW1	ERLQ016CW1
Heating capacity	Min.			kW	1.80 (1) / 1.80 (2)			-					
	Nom.			kW	4.40 (1) / 4.03 (2)	6.00 (1) / 5.67 (2)	7.40 (1) / 6.89 (2)	11.20 (1) / 10.98 (2)	14.50 (1) / 13.60 (2)	16.00 (1) / 15.20 (2)	11.38	14.55	16.10
	Max.			kW	5.12 (1) / 4.90 (2)	8.35 (1) / 7.95 (2)	10.02 (1) / 9.35 (2)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	-		
Power input	Heating	Nom.		kW	0.87 (1) / 1.13 (2)	1.27 (1) / 1.59 (2)	1.66 (1) / 2.01 (2)	2.56 (1) / 3.19 (2)	3.42 (1) / 4.13 (2)	3.81 (1) / 4.66 (2)	2.64	3.43	16.10
		Max.		kW	-			3.52 (3) / 4.14 (4)	4.95 (3) / 5.66 (4)	5.49 (3) / 6.43 (4)	-		
COP					5.04 (1) / 3.58 (2)	4.74 (1) / 3.56 (2)	4.45 (1) / 3.42 (2)	4.38 (1) / 2.50 (3) / 3.44 (2) / 1.97 (4)	4.24 (1) / 2.35 (3) / 3.29 (2) / 1.94 (4)	4.20 (1) / 2.24 (3) / 3.26 (2) / 1.79 (4)	4.31	4.24	4.20
Dimensions	Unit	HeightxWidthxDepth		mm	735x832x307			1,345x900x320					
Weight	Unit			kg	54	56		113			114		
Operation range	Heating	Min.~Max.		°CWB	-25~25			-25~35					
	Domestic hot water	Min.~Max.		°CDB	-25~35			-20~35					
Refrigerant	Type				R-410A								
	Charge			kg	1.45	1.60		3.4					
Sound power level	Heating	Nom.		dBA	61		62	64		66	64		66
Sound pressure level	Heating	Nom.		dBA	48		49	51		52	51		52
Power supply	Name/Phase/Frequency/Voltage			Hz/V	V3/1~/50/230						W1/3N~/50/400		
Current	Recommended fuses			A	20			40			20		

(1) Condition 1: cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C) (2) Condition 2: cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C) (3) Condition 3: heating Ta DB -7°C (RH85%) - LWC 35°C (4) Condition 4: heating Ta DB -7°C (RH85%) - LWC 45°C

HEATING ONLY

INDOOR UNIT					EHVH16S18CB3V EHVH16S26CB9W	EHVH16S18CB3V EHVH16S26CB9W	EHVH16S18CB3V EHVH16S26CB9W	EHVH16S18CB3V EHVH16S26CB9W	EHVH16S18CB3V EHVH16S26CB9W	EHVH16S18CB3V EHVH16S26CB9W
Casing	Colour				White					
	Material				Precoated sheet metal					
Dimensions	Unit	HeightxWidthxDepth		mm	1,732x600x728					
Weight	Unit			kg	120/129	120/129	120/129	120/129	120/129	120/129
Operation range	Heating	Ambient	Min.~Max.	°C	-25~35					
		Water side	Min.~Max.	°C	15~55					
	Domestic hot water	Ambient	Min.~Max.	°CDB	-20~35					
		Water side	Min.~Max.	°C	25~60					
Sound power level	Nom.			dBA	47					
Sound pressure level	Nom.			dBA	33					

OUTDOOR UNIT					ERHQ011BV3	ERHQ014BV3	ERHQ016BV3	ERHQ011BW1	ERHQ014BW1	ERHQ016BW1
Heating capacity	Nom.			kW	11.2 (1) / 10.3 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)
Power input	Heating	Nom.		kW	2.55 (1) / 3.17 (2)	3.26 (1) / 4.04 (2)	3.92 (1) / 4.75 (2)	2.63 (1) / 3.24 (2)	3.42 (1) / 4.21 (2)	3.82 (1) / 4.69 (2)
COP					4.39 (1) / 3.25 (2)	4.29 (1) / 3.24 (2)	4.08 (1) / 3.20 (2)	4.30 (1) / 3.39 (2)	4.24 (1) / 3.22 (2)	4.20 (1) / 3.22 (2)
Dimensions	Unit	HeightxWidthxDepth		mm	1,170x900x320			1,345x900x320		
Weight	Unit			kg	103			108		
Operation range	Heating	Min.~Max.		°CWB	-20~35					
	Domestic hot water	Min.~Max.		°CDB	-20~35					
Refrigerant	Type				R-410A					
	Charge			kg	2.7			2.95		
Sound power level	Heating	Nom.		dBA	64		66	64		66
Sound pressure level	Heating	Nom.		dBA	49	51	53	51		52
Power supply	Name/Phase/Frequency/Voltage			Hz/V	V3/1~/50/230			W1/3N~/50/400		
Current	Recommended fuses			A	32			20		

(1) DB/WB 7°C/6°C - LWC 35°C (DT=5°C) - (2) DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)

HEATING & COOLING

INDOOR UNIT					EHVX04S18CB3V	EHVX08S18CB3V EHVX08S26CB9W	EHVX08S18CB3V EHVX08S26CB9W	EHVX16S18CB3V EHVX16S26CB9W	EHVX16S18CB3V EHVX16S26CB9W	EHVX16S18CB3V EHVX16S26CB9W	EHVX16S18CB3V EHVX16S26CB9W	EHVX16S18CB3V EHVX16S26CB9W	EHVX16S18CB3V EHVX16S26CB9W
Casing	Colour				White								
	Material				Precoated sheet metal								
Dimensions	Unit	HeightxWidthxDepth		mm	1,732x600x728								
Weight	Unit			kg	115	117/126	117/126	121/129	121/129	121/129	121/129	121/129	121/129
Operation range	Heating	Ambient	Min.~Max.	°C	-25~25			-25~35			-25~35		
		Water side	Min.~Max.	°C	15~55						15~55		
	Cooling	Ambient	Min.~Max.	°CDB	10~43			10~46					
		Water side	Min.~Max.	°C	5~22								
	Domestic hot water	Ambient	Min.~Max.	°CDB	-25~35			-20~35					
		Water side	Min.~Max.	°C	25~60								
Sound power level	Nom.			dBA	42			47			47		
Sound pressure level	Nom.			dBA	28			33					

OUTDOOR UNIT				ERLQ004CV3	ERLQ006CV3	ERLQ008CV3	ERLQ011CV3	ERLQ014CV3	ERLQ016CV3	ERLQ011CW1	ERLQ014CW1	ERLQ016CW1
Heating capacity	Min.		kW	1.80 (1) / 1.80 (2)			-					
	Nom.		kW	4.40 (1) / 4.03 (2)	6.00 (1) / 5.67 (2)	7.40 (1) / 6.89 (2)	11.20 (1) / 10.98 (2)	14.50 (1) / 13.60 (2)	16.00 (1) / 15.20 (2)	11.38	14.55	16.10
	Max.		kW	5.12 (1) / 4.90 (2)	8.35 (1) / 7.95 (2)	10.02 (1) / 9.53 (2)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	-		
Cooling capacity	Min.		kW	2.00 (1) / 2.00 (2)	2.50 (1) / 2.50 (2)		-					
	Nom.		kW	5.00 (1) / 4.17 (2)	6.76 (1) / 4.84 (2)	6.86 (1) / 5.36 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	11.72	12.55	13.12
Power input	Heating	Nom.	kW	0.87 (1) / 1.13 (2)	1.27 (1) / 1.59 (2)	1.66 (1) / 2.01 (2)	2.56 (1) / 3.19 (2)	3.42 (1) / 4.13 (2)	3.81 (1) / 4.66 (2)	2.64	3.43	3.83
		Max.	kW	-			3.52 (3) / 4.14 (4)	4.95 (3) / 5.66 (4)	5.49 (3) / 6.34 (4)	-		
	Cooling	Nom.	kW	1.48 (1) / 1.80 (2)	1.96 (1) / 2.07 (2)	2.01 (1) / 2.34 (2)	4.53 (1) / 4.31 (2)	5.43 (1) / 5.08 (2)	5.16 (1) / 5.73 (2)	4.31	5.09	5.74
COP				5.04 (1) / 3.58 (2)	4.74 (1) / 3.56 (2)	4.45 (1) / 3.42 (2)	4.38 (1) / 2.50 (3) / 3.44 (2) / 1.97 (4)	4.24 (1) / 2.35 (3) / 3.29 (2) / 1.94 (4)	4.20 (1) / 2.24 (3) / 3.26 (2) / 1.79 (4)	4.31	4.24	4.20
EER				3.37 (1) / 2.32 (2)	3.45 (1) / 2.34 (2)	3.42 (1) / 2.29 (2)	3.32 (1) / 2.72 (2)	2.96 (1) / 2.47 (2)	2.72 (1) / 2.29 (2)	2.72	2.47	2.29
Dimensions	Unit	HeightxWidthxDepth	mm	735x832x307			1,345x900x320					
Weight	Unit		kg	54	56		113			114		
Operation range	Heating	Min.~Max.	°CWB	-25~25			-25~35					
	Cooling	Min.~Max.	°CDB	10~43			10.0~46.0					
	Domestic hot water	Min.~Max.	°CDB	-25~35			-20~35					
Refrigerant	Type			R-410A								
	Charge		kg	1.45	1.60		3.4					
Sound power level	Heating	Nom.	dBA	61		62	64		66	64		66
	Cooling	Nom.	dBA	63			64	66	69	64	66	69
Sound pressure level	Heating	Nom.	dBA	48 (3)		49 (3)	51		52	51		52
	Cooling	Nom.	dBA	48 (3)	49 (3)	50 (3)	50	52	54	50	52	54
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V3/1~/50/230						W1/3N~/50/400		
Current	Recommended fuses		A	20			40			20		

(1) Condition 1: cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C) (2) Condition 2: cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)
(3) Condition 3: heating Ta DB -7°C (RH85%) - LWC 35°C (4) Condition 4: heating Ta DB -7°C (RH85%) - LWC 45°C

HEATING & COOLING

INDOOR UNIT					EHVX16S18CB3V EHVX16S26CB9W	EHVX16S18CB3V EHVX16S26CB9W	EHVX16S18CB3V EHVX16S26CB9W	EHVX16S18CB3V EHVX16S26CB9W	EHVX16S18CB3V EHVX16S26CB9W	EHVX16S18CB3V EHVX16S26CB9W
Casing	Colour				White					
	Material				Precoated sheet metal					
Dimensions	Unit	HeightxWidthxDepth		mm	1,732x600x728					
Weight	Unit			kg	121/129	121/129	121/129	121/129	121/129	121/129
Operation range	Heating	Ambient	Min.~Max.	°C	-25~35					
		Water side	Min.~Max.	°C	15~55					
	Cooling	Ambient	Min.~Max.	°CDB	10~46					
		Water side	Min.~Max.	°C	5~22					
	Domestic hot water	Ambient	Min.~Max.	°CDB	-20~35					
		Water side	Min.~Max.	°C	25~60					
Sound power level	Nom.			dBA	47					
Sound pressure level	Nom.			dBA	33					

OUTDOOR UNIT				ERHQ011BV3	ERHQ014BV3	ERHQ016BV3	ERHQ011BW1	ERHQ014BW1	ERHQ016BW1
Heating capacity	Nom.		kW	11.2 (1) / 10.30 (2)	14.0 (1) / 13.1 (2)	16.0 (1) / 15.2 (2)	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)
Cooling capacity	Nom.		kW	13.9 (1) / 10.0 (2)	17.3 (1) / 12.5 (2)	17.8 (1) / 13.1 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)
Power input	Heating	Nom.	kW	2.55 (1) / 3.17 (2)	3.26 (1) / 4.04 (2)	3.92 (1) / 4.75 (2)	2.63 (1) / 3.24 (2)	3.42 (1) / 4.21 (2)	3.82 (1) / 4.69 (2)
	Cooling	Nom.	kW	3.86 (1) / 3.69 (2)	5.86 (1) / 5.39 (2)	6.87 (1) / 5.95 (2)	4.53 (1) / 4.31 (2)	5.43 (1) / 5.08 (2)	6.16 (1) / 5.73 (2)
COP				4.39 (1) / 3.25 (2)	4.29 (1) / 3.24 (2)	4.08 (1) / 3.20 (2)	4.30 (1) / 3.39 (2)	4.24 (1) / 3.22 (2)	4.20 (1) / 3.22 (2)
EER				3.60 (1) / 2.71 (2)	2.95 (1) / 2.32 (2)	2.59 (1) / 2.20 (2)	3.32 (1) / 2.72 (2)	2.96 (1) / 2.47 (2)	2.72 (1) / 2.29 (2)
Dimensions	Unit	HeightxWidthxDepth	mm	1,170x900x320			1,345x900x320		
Weight	Unit		kg	103			108		
Operation range	Heating	Min.~Max.	°CWB	-20~35			-25~35		
	Cooling	Min.~Max.	°CDB	10~46					
	Domestic hot water	Min.~Max.	°CDB	-20~35					
Refrigerant	Type			R-410A					
	Charge		kg	2.7			2.95		
Sound power level	Heating	Nom.	dBA	64		66	64		66
	Cooling	Nom.	dBA	64	66	69	64	66	69
Sound pressure level	Heating	Nom.	dBA	49	51	53	51		52
	Cooling	Nom.	dBA	50	52	54	50	52	54
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V3/1~/50/230			W1/3N~/50/400		
Current	Recommended fuses		A	32			20		

(1)DB/WB 7°C/6°C - LWC 35°C (DT=5°C) - (2) DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)

INTEGRATED SOLAR UNIT

HEATING & COOLING

INDOOR UNIT				EHSX04P30A	EHSX08P30A	EHSX08P50A	EHSX16P50A
Casing	Colour			Tank: white RAL 9003 / Top cover: steel grey RAL 7011			
Dimensions	Unit	HeightxWidthxDepth	mm	1,950x615x595		1,940x790x790	
Weight	Unit		kg	87		114	116
Operation range	Water side	Min.~Max.	°C	15~55			
	Water side	Min.~Max.	°C	5~22			
	Water side	Min.~Max.	°C	25~80			
Sound power level	Nom.		dBA	42			66
Sound pressure level	Nom.		dBA	28			32

OUTDOOR UNIT				ERLQ004CV3	ERLQ006CV3	ERLQ008CV3	ERLQ006CV3	ERLQ008CV3	ERLQ011CV3/CW1	ERLQ014CV3/CW1	ERLQ016CV3/CW1
Heating capacity	Nom.		kW	4.53 (1) / 3.47 (2)	6.06 (1) / 4.6 (2)	7.78 (1) / 5.51 (2)	6.06 (1) / 4.6 (2)	7.78 (1) / 5.51 (2)	11.8 (1) / 7.7 (2)	14.8 (1) / 9.6 (2)	15.3 (1) / 10.1 (2)
Cooling capacity	Nom.		kW	4.42 (3)	5.22 (3)				15.1 (3)	16.1 (3)	16.8 (3)
COP				5.23 (1) / 4.07 (2)	4.65 (1) / 3.64 (2)	4.6 (1) / 3.54 (2)	4.65 (1) / 3.64(2)	4.6 (1) / 3.54 (2)	4.47 (1) / 3.29 (2)	4.27 (1) / 3.22 (2)	4.1 (1) / 3.15 (2)
EER				4.21 (3)	3.65 (3)				3.32 (3)	2.96 (3)	2.72 (3)
Dimensions	Unit	HeightxWidthxDepth	mm	735x832x307			1,345x900x320				
Weight	Unit		kg	54	56		113		114		
Operation range	Heating	Min.~Max.	°CWB	-25~25			-25~35				
	Cooling	Min.~Max.	°CDB	10~43			10.0~46.0				
	Domestic hot water	Min.~Max.	°CDB	-25~35			-20~35				
Refrigerant	Type			R-410A							
	Charge		kg	1.45	1.60				3.4		
Sound power level	Heating	Nom.	dBA	61		62	61	62	64		66
	Cooling	Nom.	dBA	63					64	66	69
Sound pressure level	Heating	Nom.	dBA	48		49	48	49	51		52
	Cooling	Nom.	dBA	48	49	50	49	50		52	54
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V3/1~/50/230					W1/3N~/50/400		
Current	Recommended fuses		A	20							

(1) Condition 1: heating Ta 7°C / LWC 35°C (2) Condition
(2) heating Ta 2°C / LWC 35°C
(3) Condition 3: cooling Ta 35°C / LWC 18°C

*Note: grey cells contain preliminary data

HEATING & COOLING

INDOOR UNIT				EHSXB04P30A	EHSXB08P30A	EHSXB08P50A	EHSXB16P50A
Casing	Colour			Tank: white RAL 9003 / Top cover: steel grey RAL 7011			
Dimensions	Unit	HeightxWidthxDepth	mm	1,950x615x595		1,940x790x790	
Weight	Unit		kg	92		119	121
	Water side	Min.~Max.	°C	15~55			
	Water side	Min.~Max.	°C	5~22			
	Water side	Min.~Max.	°C	25~80			
Sound power level	Nom.		dBA	42	42/62		66
Sound pressure level	Nom.		dBA	28	28/29		32

OUTDOOR UNIT				ERLQ004CV3	ERLQ006CV3	ERLQ008CV3	ERLQ006CV3	ERLQ008CV3	ERLQ011CV3/CW1	ERLQ014CV3/CW1	ERLQ016CV3/CW1
Heating capacity	Nom.		kW	4.53 (1) / 3.47 (2)	6.06 (1) / 4.6 (2)	7.78 (1) /5.51 (2)	6.06 (1) / 4.6 (2)	7.78 (1) / 5.51 (2)	11.8 (1) / 7.7 (2)	14.8 (1) / 9.6 (2)	15.3 (1) / 10.1 (2)
Cooling capacity	Nom.		kW	4.42 (3)	5.22 (3)				15.1 (3)	16.1 (3)	16.8 (3)
COP				5.23 (1) / 4.07 (2)	4.65 (1) / 3.64 (2)	4.6 (1) / 3.54 (2)	4.65 (1) / 3.64 (2)	4.6(1) / 3.54 (2)	4.47 (1) / 3.29 (2)	4.27 (1) / 3.22 (2)	4.1 (1)/ 3.15 (2)
EER				4.21 (3)	3.65 (3)				3.32 (3)	2.96 (3)	2.72 (3)
Dimensions	Unit	HeightxWidthxDepth	mm	735x832x307			1,345x900x320				
Weight	Unit		kg	54	56		113		114		
Operation range	Heating	Min.~Max.	°CWB	-25~25			-25~35				
	Cooling	Min.~Max.	°CDB	10~43			10.0~46.0				
	Domestic hot water	Min.~Max.	°CDB	-25~35			-20~35				
Refrigerant	Type			R-410A							
	Charge		kg	1.45	1.60				3.4		
Sound power level	Heating	Nom.	dBA	61		62	61	62	64		66
	Cooling	Nom.	dBA	63					64	66	69
Sound pressure level	Heating	Nom.	dBA	48 (3)		49 (3)	48	49	51		52
	Cooling	Nom.	dBA	48 (3)	49 (3)	50 (3)	49	50		52	54
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V3/1~/50/230					W1/3N~/50/400		
Current	Recommended fuses		A	20			20		20		

(1) Condition 1: heating Ta 7°C / LWC 35°C
(2): heating Ta 2°C / LWC 35°C
(3) Condition 3: cooling Ta 35°C / LWC 18°C

*Note: grey cells contain preliminary data

WALL MOUNTED UNIT

HEATING ONLY

INDOOR UNIT					EHBH04CB3V	EHBH08CB3V EHBH08CB9W	EHBH08CB3V EHBH08CB9W	EHBH16CB3V EHBH16CB9W	EHBH16CB3V EHBH16CB9W	EHBH16CB3V EHBH16CB9W	EHBH16CB3V EHBH16CB9W	EHBH16CB3V EHBH16CB9W	EHBH16CB3V EHBH16CB9W
Casing	Colour				White								
	Material				Precoated sheet metal								
Dimensions	Unit	HeightxWidthxDepth		mm	890x480x344								
Weight	Unit			kg	44	46/48		47/48					
Operation range	Heating	Ambient	Min.~Max.	°C	-25~25			-25~35					
		Water side	Min.~Max.	°C	15 (4)~55 (4)						15~55		
	Domestic hot water	Ambient	Min.~Max.	°CDB	-25~35			-20~35					
		Water side	Min.~Max.	°C	25~80								
Sound power level	Nom.			dBA	40			47					
Sound pressure level	Nom.			dBA	26			33					

OUTDOOR UNIT					ERLQ004CV3	ERLQ006CV3	ERLQ008CV3	ERLQ011CV3	ERLQ014CV3	ERLQ016CV3	ERLQ011CW1	ERLQ014CW1	ERLQ016CW1
Heating capacity	Min.			kW	1.80 (1) / 1.80 (2)			-					
	Nom.			kW	4.40 (1) / 4.03 (2)	6.00 (1) / 5.67 (2)	7.40 (1) / 6.89 (2)	11.20 (1) / 10.98 (2)	14.50 (1) / 13.60 (2)	16.00 (1) / 15.20 (2)	11.2 / 10.3	14.0 / 13.1	16.0 / 15.2
	Max.			kW	5.12 (1) / 4.90 (2)	8.35 (1) / 7.95 (2)	10.02 (1) / 9.35 (2)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)	-		
Power input	Heating	Nom.		kW	0.87 (1) / 1.13 (2)	1.27 (1) / 1.59 (2)	1.66 (1) / 2.01 (2)	2.56 (1) / 3.19 (2)	3.42 (1) / 4.13 (2)	3.81 (1) / 4.66 (2)	2.55 / 3.17	3.26 / 4.04	3.92 / 4.75
		Max.		kW	-			3.52 (3) / 4.14 (4)	4.95 (3) / 5.66 (4)	5.49 (3) / 6.43 (4)	-		
COP					5.04 (1) / 3.58 (2)	4.74 (1) / 3.56 (2)	4.45 (1) / 3.42 (2)	4.38 (1) / 2.50 (3) / 3.44 (2) / 1.97 (4)	4.24 (1) / 2.35 (3) / 3.29 (2) / 1.94 (4)	4.20 (1) / 2.24 (3) / 3.26 (2) / 1.79 (4)	4.39 / 3.25	4.29 / 3.24	4.08 / 3.20
Dimensions	Unit	HeightxWidthxDepth		mm	735x832x307			1,345x900x320			1,170x900x320		
Weight	Unit			kg	54	56		113			103		
Operation range	Heating	Min.~Max.		°CWB	-25~25			-25~35			-20~35		
	Domestic hot water	Min.~Max.		°CDB	-25~35			-20~35					
Refrigerant	Type				R-410A								
	Charge			kg	1.45	1.60		3.4			2.7		
Sound power level	Heating	Nom.		dBA	61		62	64		66	64		66
Sound pressure level	Heating	Nom.		dBA	48 (3)		49 (3)	51		52	49	51	53
Power supply	Name/Phase/Frequency/Voltage			Hz/V	V3/1~/50/230								
Current	Recommended fuses			A	20			40			32		

(1) Condition 1: cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C) (2) Condition 2: cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)
(3) Condition 3: heating Ta DB -7°C (RH85%) - LWC 35°C (4) Condition 4: heating Ta DB -7°C (RH85%) - LWC 45°C

HEATING ONLY

INDOOR UNIT					EHBH16CB3V EHBH16CB9W	EHBH16CB3V EHBH16CB9W	EHBH16CB3V EHBH16CB9W	EHBH16CB3V EHBH16CB9W	EHBH16CB3V EHBH16CB9W	EHBH16CB3V EHBH16CB9W
Casing	Colour				White					
	Material				Precoated sheet metal					
Dimensions	Unit	HeightxWidthxDepth		mm	890x480x344					
Weight	Unit			kg	47/48	47/48	47/48	47/48	47/48	47/48
Operation range	Heating	Ambient	Min.~Max.	°C	-25~35					
		Water side	Min.~Max.	°C	15~55					
	Domestic hot water	Ambient	Min.~Max.	°CDB	-20~35					
		Water side	Min.~Max.	°C	25~80					
Sound power level	Nom.			dBA	47					
Sound pressure level	Nom.			dBA	33					

OUTDOOR UNIT					ERHQ011BW1	ERHQ014BW1	ERHQ016BW1	ERHQ011BV3	ERHQ014BV3	ERHQ016BV3
Heating capacity	Nom.			kW	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)	11.32 (1) / 10.98 (2)	14.50 (1) / 13.57 (2)	16.05 (1) / 15.11 (2)
Power input	Heating	Nom.		kW	2.63 (1) / 3.24 (2)	3.42 (1) / 4.21 (2)	3.82 (1) / 4.69 (2)	2.63 (1) / 3.24 (2)	3.42 (1) / 4.21 (2)	3.82 (1) / 4.69 (2)
COP					4.30 (1) / 3.39 (2)	4.24 (1) / 3.22 (2)	4.20 (1) / 3.22 (2)	4.30 (1) / 3.39 (2)	4.24 (1) / 3.22 (2)	4.20 (1) / 3.22 (2)
Dimensions	Unit	HeightxWidthxDepth		mm	1,345x900x320					
Weight	Unit			kg	108					
Operation range	Heating	Min.~Max.		°CWB	-25~35					
	Domestic hot water	Min.~Max.		°CDB	-20~35					
Refrigerant	Type				R-410A					
	Charge			kg	2.95					
Sound power level	Heating	Nom.		dBA	64		66	64		66
Sound pressure level	Heating	Nom.		dBA	51		52	51		52
Power supply	Name/Phase/Frequency/Voltage			Hz/V	W1/3N~/50/400					
Current	Recommended fuses			A	20					

(1)DB/WB 7°C/6°C - LWC 35°C (DT=5°C) - (2) DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)

HEATING & COOLING

INDOOR UNIT					EHBX04CB3V	EHBX08CB3V EHBX08CB9W	EHBX08CB3V EHBX08CB9W	EHBX16CB3V EHBX16CB9W	EHBX16CB3V EHBX16CB9W	EHBX16CB3V EHBX16CB9W	EHBX16CB3V EHBX16CB9W	EHBX16CB3V EHBX16CB9W	EHBX16CB3V EHBX16CB9W
Casing	Colour				White								
	Material				Precoated sheet metal								
Dimensions	Unit	HeightxWidthxDepth		mm	890x480x344								
Weight	Unit			kg	44	46/48	46/48	47/48	47/48	47/48	47/48	47/48	47/48
Operation range	Heating	Ambient	Min.~Max.	°C	-25~25			-25~35			-25~35		
		Water side	Min.~Max.	°C	15~55						15~55		
	Cooling	Ambient	Min.~Max.	°CDB	10~43			10~46					
		Water side	Min.~Max.	°C	5~22								
	Domestic hot water	Ambient	Min.~Max.	°CDB	-25~35			-20~35					
		Water side	Min.~Max.	°C	25~80								
Sound power level	Nom.			dBA	40			47					
Sound pressure level	Nom.			dBA	26			33					

OUTDOOR UNIT					ERLQ004CV3	ERLQ006CV3	ERLQ008CV3	ERLQ011CV3	ERLQ014CV3	ERLQ016CV3	ERLQ011CW1	ERLQ016CW1	ERLQ014CW1
Heating capacity	Min.			kW	1.80 (1) / 1.80 (2)			-					
	Nom.			kW	4.40 (1) / 4.03 (2)	6.00 (1) / 5.67 (2)	7.40 (1) / 6.89 (2)	11.20 (1) / 10.98 (2)	14.50 (1) / 13.60 (2)	16.00 (1) / 15.20 (2)	11.32 / 10.98	14.50 / 13.57	16.05 / 15.11
	Max.			kW	5.12 (1) / 4.90 (2)	8.35 (1) / 7.95 (2)	10.02 (1) / 9.53 (2)	8.81 (3) / 8.16 (4)	11.65 (3) / 10.96 (4)	12.30 (3) / 11.35 (4)			
Cooling capacity	Min.			kW	2.00 (1) / 2.00 (2)	2.50 (1) / 2.50 (2)		-					
	Nom.			kW	5.00 (1) / 4.17 (2)	6.76 (1) / 4.84 (2)	6.86 (1) / 5.3 (2)	15.05 (1) / 11.72 (2)	16.06 (1) / 12.55 (2)	16.76 (1) / 13.12 (2)	15.05 / 11.72	16.06 / 12.55	16.76 / 13.12
Power input	Heating	Nom.		kW	0.87 (1) / 1.13 (2)	1.27 (1) / 1.59 (2)	1.66 (1) / 2.01 (2)	2.56 (1) / 3.19 (2)	3.42 (1) / 4.13 (2)	3.81 (1) / 4.66 (2)	2.63 / 3.24	3.42 / 4.21	3.82 / 4.69
		Max.		kW	-			3.52 (3) / 4.14 (4)	4.95 (3) / 5.66 (4)	5.49 (3) / 6.34 (4)	-		
	Cooling	Nom.		kW	1.48 (1) / 1.80 (2)	1.96 (1) / 2.07 (2)	2.01 (1) / 2.34 (2)	4.53 (1) / 4.31 (2)	5.43 (1) / 5.08 (2)	5.16 (1) / 5.73 (2)	4.53 / 4.31	5.43 / 5.08	6.16 / 5.73
COP					5.04 (1) / 3.58 (2)	4.74 (1) / 3.56 (2)	4.45 (1) / 3.42 (2)	4.38 (1) / 2.50 (3) / 3.44 (2) / 1.97 (4)	4.24 (1) / 2.35 (3) / 3.29 (2) / 1.94 (4)	4.20 (1) / 2.24 (3) / 3.26 (2) / 1.79 (4)	4.30 / 3.39	4.24 / 3.22	4.20 / 3.22
EER					3.37 (1) / 2.32 (2)	3.45 (1) / 2.34 (2)	3.42 (1) / 2.29 (2)	3.32 (1) / 2.72 (2)	2.96 (1) / 2.47 (2)	2.72 (1) / 2.29 (2)	3.32 / 2.72	2.96 / 2.47	2.72 / 2.29
Dimensions	Unit	HeightxWidthxDepth		mm	735x832x307			1,345x900x320			1,345x900x320		
Weight	Unit			kg	54	56		113			108		
Operation range	Heating	Min.~Max.		°CWB	-25~25			-25~35					
	Cooling	Min.~Max.		°CDB	10~43			10.0~46.0					
	Domestic hot water	Min.~Max.		°CDB	-25~35			-20~35					
Refrigerant	Type				R-410A								
	Charge			kg	1.45	1.60		3.4			2.95		
Sound power level	Heating	Nom.		dBA	61		62	64		66	64		66
	Cooling	Nom.		dBA	63			64	66	69	64	66	69
Sound pressure level	Heating	Nom.		dBA	48 (3)		49 (3)	51		52	51		52
	Cooling	Nom.		dBA	48 (3)	49 (3)	50 (3)	50	52	54	50	52	54
Power supply	Name/Phase/Frequency/Voltage			Hz/V	V3/1~/50/230								
Current	Recommended fuses			A	20			40			20		

(1) Condition 1: cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C) (2) Condition 2: cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)
(3) Condition 3: heating Ta DB -7°C (RH85%) - LWC 35°C (4) Condition 4: heating Ta DB -7°C (RH85%) - LWC 45°C

HEATING & COOLING

INDOOR UNIT					EHBX16CB3V EHBX16CB9W	EHBX16CB3V EHBX16CB9W	EHBX16CB3V EHBX16CB9W	EHBX16CB3V EHBX16CB9W	EHBX16CB3V EHBX16CB9W	EHBX16CB3V EHBX16CB9W
Casing	Colour				White					
	Material				Precoated sheet metal					
Dimensions	Unit	HeightxWidthxDepth		mm	890x480x344					
Weight	Unit			kg	47/48	47/48	47/48	47/48	47/48	47/48
Operation range	Heating	Ambient	Min.~Max.	°C	-25~35			-25~35		
		Water side	Min.~Max.	°C	15~55			15~55		
	Cooling	Ambient	Min.~Max.	°CDB	10~46					
		Water side	Min.~Max.	°C	5~22					
	Domestic hot water	Ambient	Min.~Max.	°CDB	-20~35					
		Water side	Min.~Max.	°C	25~80					
Sound power level	Nom.			dBA	47					
Sound pressure level	Nom.			dBA	33					

OUTDOOR UNIT					ERHQ011BV3	ERHQ014BV3	ERHQ016BV3	ERHQ011BW1	ERHQ014BW1	ERHQ016BW1
Heating capacity	Nom.			kW	11.2 (3) / 10.30 (4)	14.0 (3) / 13.1 (4)	16.0 (3) / 15.2 (4)	11.32 / 10.98	14.50 / 13.57	16.05 / 15.11
Cooling capacity	Nom.			kW	13.9 (2) / 10.0 (1)	17.3 (2) / 12.5 (1)	17.8 (2) / 13.1 (1)	15.05 / 11.72	16.06 / 12.55	16.76 / 13.12
Power input	Heating	Nom.		kW	2.55 (3) / 3.17 (4)	3.26 (3) / 4.04 (4)	3.92 (3) / 4.75 (4)	2.63 / 3.24	3.42 / 4.21	3.82 / 4.69
	Cooling	Nom.		kW	3.86 (2) / 3.69 (1)	5.86 (2) / 5.39 (1)	6.87 (2) / 5.95 (1)	4.53 / 4.31	5.43 / 5.08	6.16 / 5.73
COP					4.39 (3) / 3.25 (4)	4.29 (3) / 3.24 (4)	4.08 (3) / 3.20 (4)	4.30 / 3.39	4.24 / 3.22	4.20 / 3.22
EER					3.60 (2) / 2.71 (1)	2.95 (2) / 2.32 (1)	2.59 (2) / 2.20 (1)	3.32 / 2.72	2.96 / 2.47	2.72 / 2.29
Dimensions	Unit	HeightxWidthxDepth		mm	1,170x900x320			1,345x900x320		
Weight	Unit			kg	103			108		
Operation range	Heating	Min.~Max.		°CWB	-20~35			-25~35		
	Cooling	Min.~Max.		°CDB	10~46					
	Domestic hot water	Min.~Max.		°CDB	-20~35					
Refrigerant	Type				R-410A					
	Charge			kg	2.7			2.95		
Sound power level	Heating	Nom.		dBA	64		66	64		66
	Cooling	Nom.		dBA	64	66	69	64	66	69
Sound pressure level	Heating	Nom.		dBA	49	51	53	51		52
	Cooling	Nom.		dBA	50	52	54	50	52	54
Power supply	Name/Phase/Frequency/Voltage			Hz/V	V3/1~/50/230			W1/3N~/50/400		
Current	Recommended fuses			A	32			20		

(1)DB/WB 7°C/6°C - LWC 35°C (DT=5°C) - (2) DB/WB 7°C/6°C - LWC 45°C (Dt=5°C) (3) Condition 3: heating Ta DB -7°C (RH85%) - LWC 35°C (4) Condition 4: heating Ta DB -7°C (RH85%) - LWC 45°C

MONOBLOC

HEATING & COOLING

INDOOR UNIT					EBHQ006BBV3	EBHQ008BBV3	EKCBH008BCV3	EKCBX008BCV3
Heating capacity	Nom.			kW	6.00 (2) / 5.58 (4)	8.85 (2) / 8.15 (4)	-	
Cooling capacity	Nom.			kW	7.00 (1) / 5.12 (3)	8.37 (1) / 6.08 (3)	-	
Power input	Cooling	Nom.		kW	2.20 (1) / 2.16 (3)	2.97 (1) / 2.75 (3)	-	
	Heating	Nom.		kW	1.41 (2) / 1.79 (4)	2.21 (2) / 2.72 (4)	-	
COP					4.26 (2) / 3.11 (4)	4.00 (2) / 3.00 (4)	-	
EER					3.18 (1) / 2.37 (3)	2.82 (1) / 2.21 (3)	-	
Dimensions	Unit	Height		mm	805		390	
		Width		mm	1,190		412	
		Depth		mm	360		100	
		Depth with remocon mounted on front plate		mm	-		120	
Weight	Unit			kg	95		6	
Operation range	Heating	Ambient	Min.~Max.	°CWB	-15~25		-~-	
		Water side	Min.~Max.	°C	15 (7)~50 (7)		-~-	
	Cooling	Ambient	Min.~Max.	°CDB	10~43		-~-	
		Water side	Min.~Max.	°C	5~22		-~-	
	Domestic hot water	Ambient	Min.~Max.	°CDB	-15~35		-~-	
		Water side	Min.~Max.	°C	25~80		-~-	
	Indoor installation	Ambient	Min.	°CDB	-		4	
			Max.	°CDB	-		35	
Refrigerant	Type				R-410A		-	
	Charge			kg	1.7		-	
Sound power level	Heating	Nom.		dBA	61	62	-	
	Cooling	Nom.		dBA	63		-	
Sound pressure level	Heating	Nom.		dBA	48 (6)	49 (6)	-	
	Cooling	Nom.		dBA	48 (6)	50 (6)	-	
Compressor component	Main power supply	Name			V3		-	
		Phase			1~		-	
		Frequency		Hz	50		-	
		Voltage		V	230		-	

(1) Tamb 35°C - LWE 18°C (DT=5°C) (2) DB/WB 7°C/6°C - LWC 35°C (DT=5°C) (3) Tamb 35°C - LWE 7°C (DT=5°C) (4) DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)

HEATING ONLY

Outdoor unit					EDHQ011BB6V3 EDLQ011BB6V3	EDHQ014BB6V3 EDLQ014BB6V3	EDHQ016BB6V3 EDLQ016BB6V3	EDHQ011BB6W1 EDLQ011BB6W1	EDHQ014BB6W1 EDLQ014BB6W1	EDHQ016BB6W1 EDLQ016BB6W1
Heating capacity	Nom.			kW	11.20 (1) / 10.87 (2)	14.00 (1) / 13.10 (2)	16.00 (1) / 15.06 (2)	11.20 (1) / 10.87 (2)	14.00 (1) / 13.10 (2)	16.00 (1) / 15.06 (2)
Power input	Heating	Nom.		kW	2.56 (1) / 3.31 (2)	3.29 (1) / 4.01 (2)	3.88 (1) / 4.71 (2)	2.60 (1) / 3.21 (2)	3.30 (1) / 4.07 (2)	3.81 (1) / 4.66 (2)
COP					4.38 (1) / 3.28 (2)	4.25 (1) / 3.27 (2)	4.12 (1) / 3.20 (2)	4.31 (1) / 3.38 (2)	4.24 (1) / 3.22 (2)	4.20 (1) / 3.23 (2)
Dimensions	Unit	Height		mm	1,418					
		Width		mm	1,435					
		Depth		mm	382					
Weight	Unit			kg	180					
Hydraulic component	Back-up heater current	Type			6V3			6W1		
		Power supply	Phase/Frequency/ Voltage	Hz/V	1~/50/230			3~/50/400		
Operation range	Heating	Ambient	Min.~Max.	°CWB	-15~35 (EDHQ) / -20~35 (EDLQ)			-15~35 (EDHQ) / -20~35 (EDLQ)		
		Water side	Min.~Max.	°C	15 (5)~55 (5)					
	Domestic hot water	Ambient	Min.~Max.	°CDB	-15~43 (EDHQ) / -20~43 (EDLQ)			-15~43 (EDHQ) / -20~43 (EDLQ)		
		Water side	Min.~Max.	°C	25~80					
Refrigerant	Type				R-410A					
	Charge			kg	2.95					
Sound power level	Heating	Nom.		dBA	64	65	66	64	65	66
Sound pressure level	Heating	Nom.		dBA	51 (3)		52 (3)	49 (3)	51 (3)	53 (3)
Compressor component	Main power supply	Name			V3			W1		
		Phase			1~			3N~		
		Frequency		Hz	50					
		Voltage		V	230			400		

(1) Condition 1: cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C) (2) Condition 2: cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C) (3) 15°C-25°C: BUH only, no heat pump operation = during commisioning

HEATING & COOLING

OUTDOOR UNIT					EBHQ011BB6V3 EBLQ011BB6V3	EBHQ014BB6V3 EBLQ014BB6V3	EBHQ016BB6V3 EBLQ016BB6V3	EBHQ011BB6W1 EBLQ011BB6W1	EBHQ014BB6W1 EBLQ014BB6W1	EBHQ016BB6W1 EBLQ016BB6W1
Heating capacity	Nom.			kW	11.20 (1) / 10.87 (2)	14.00 (1) / 13.10 (2)	16.00 (1) / 15.06 (2)	11.20 (1) / 10.87 (2)	14.00 (1) / 13.10 (2)	16.00 (1) / 15.06 (2)
Cooling capacity	Nom.			kW	12.85 (1) / 10.00 (2)	15.99 (1) / 12.50 (2)	16.73 (1) / 13.10 (2)	12.85 (1) / 10.00 (2)	15.99 (1) / 12.50 (2)	16.73 (1) / 13.10 (2)
Power input	Cooling	Nom.		kW	3.87 (1) / 3.69 (2)	5.75 (1) / 5.39 (2)	6.36 (1) / 5.93 (2)	3.87 (1) / 3.69 (2)	5.40 (1) / 5.06 (2)	6.15 (1) / 5.75 (2)
	Heating	Nom.		kW	2.56 (1) / 3.31 (2)	3.29 (1) / 4.01 (2)	3.88 (1) / 4.71 (2)	2.60 (1) / 3.21 (2)	3.30 (1) / 4.07 (2)	3.81 (1) / 4.66 (2)
COP					4.38 (1) / 3.28 (2)	4.25 (1) / 3.27 (2)	4.12 (1) / 3.20 (2)	4.31 (1) / 3.38 (2)	4.24 (1) / 3.22 (2)	4.20 (1) / 3.23 (2)
EER					3.32 (1) / 2.71 (2)	2.78 (1) / 2.32 (2)	2.63 (1) / 2.21 (2)	3.32 (1) / 2.71 (2)	2.96 (1) / 2.47 (2)	2.72 (1) / 2.28 (2)
Dimensions	Unit	Height		mm	1,418					
		Width		mm	1,435					
		Depth		mm	382					
Weight	Unit			kg	180					
Hydraulic component	Back-up heater current	Type			6V3			6W1		
		Power supply	Phase/Frequency/ Voltage	Hz/V	1~/50/230			3~/50/400		
Operation range	Heating	Ambient	Min.~Max.	°CWB	-15~35 (EBHQ) / -20~35 (EBLQ)			-15~35 (EBHQ) / -25~35 (EBLQ)		
		Water side	Min.~Max.	°C	15 (6)~55 (6)					
	Cooling	Ambient	Min.~Max.	°CDB	10~46					
		Water side	Min.~Max.	°C	5~22					
	Domestic hot water	Ambient	Min.~Max.	°CDB	-15~43 (EBHQ) / -20~43 (EBLQ)			-15~43 (EBHQ) / -25~43 (EBLQ)		
		Water side	Min.~Max.	°C	25~80					
Refrigerant	Type				R-410A					
	Charge			kg	2.95					
Sound power level	Heating	Nom.		dBA	64	65	66	64	65	66
	Cooling	Nom.		dBA	65	66	69	65	66	69
Sound pressure level	Heating	Nom.		dBA	51 (3)		52 (3)	49 (3)	51 (3)	53 (3)
	Cooling	Nom.		dBA	50 (3)	52 (3)	54 (3)	50 (3)	52 (3)	54 (3)
Compressor component	Main power supply	Name			V3			W1		
		Phase			1~			3N~		
		Frequency		Hz	50					
		Voltage		V	230			400		

(1) Condition 1: cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C) (2) Condition 2: cooling Ta 35°C - LWE 7°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C) (3) 15°C-25°C: BUH only, no heat pump operation = during commisioning

DOMESTIC HOT WATER TANK

Domestic hot water tank				EKHWS150B3V3	EKHWS200B3V3	EKHWS300B3V3	EKHWS200B3Z2	EKHWS300B3Z2
Casing	Colour			Neutral white				
	Material			Epoxy-coated mild steel				
Dimensions	Unit	Width	mm	580				
		Depth	mm	580				
Weight	Unit	Empty	kg	37	45	59	45	59
Tank	Water volume		l	150	200	300	200	300
	Material			Stainless steel (DIN 1.4521)				
	Maximum water temperature		℃	85				
	Insulation	Heat loss	kWh/24h	1.55	1.77	2.19	1.77	2.19
Heat exchanger	Quantity			1				
	Tube material			Duplex steel LDX 2101				
Booster heater	Capacity		kW	3				
Power supply	Phase/Frequency/Voltage		Hz/V	1~/50/230			2~/50/400	

Domestic hot water tank				EKHWE150A3V3	EKHWE200A3V3	EKHWE300A3V3	EKHWE200A3Z2	EKHWE300A3Z2
Casing	Colour			RAL9010				
	Material			Epoxy coated steel				
Dimensions	Unit	Diameter	mm	545		660	545	660
Weight	Unit	Empty	kg	80	104	140	104	140
Tank	Water volume		l	150	200	300	200	300
	Maximum water temperature		℃	75				
	Insulation	Heat loss	kWh/24h	1.7	1.9	2.5	1.9	2.5
Booster heater	Capacity		kW	3.0				
Power supply	Phase/Frequency/Voltage		Hz/V	1~/50/230			2~/50/400	

DOMESTIC HOT WATER TANK FOR UNPRESSURIZED SOLAR CONNECTION

Domestic hot water tank				EKHWP300B	EKHWP500B
Dimensions	Unit	Height	mm	1,640	1,640
		Width	mm	595	790
		Depth	mm	615	790
Weight	Unit	Empty	kg	59	93
Tank	Water volume		l	300	500
	Maximum water temperature		℃	85	
	Insulation	Heat loss	kWh/24h	1.3	1.4
Heat exchanger	Domestic hot water	Tube material		Stainless steel	
		Face area	m^2	5.8	6
		Internal coil volume	l	27.9	29
		Operating pressure	bar	6	
		Average specifc thermal output	W/K	2,790	2,900
	Charging	Tube material		Stainless steel	
		Face area	m^2	2.7	3.8
		Internal coil volume	l	13.2	18.5
		Operating pressure	bar	3	
		Average specifc thermal output	W/K	1,300	1,800
	Auxiliary solar heating	Tube material		Stainless steel	
		Face area	m^2	-	0.5
		Internal coil volume	l	-	2.3
		Operating pressure	bar	3	
		Average specifc thermal output	W/K	-	280

SOLAR SYSTEM - UNPRESSURIZED SYSTEM

INDOOR UNIT				EKSRPS3
Mounting				On side of tank
Dimensions	Unit	HeightxWidthxDepth	mm	815x230x142
Thermal performance	Zero loss collector efficiency η0		%	-
Control	Type			Digital temperature difference controller with plain text display
	Power consumption		W	2
Sensor	Solar panel temperature sensor			Pt1000
	Storage tank sensor			PTC
	Return flow sensor			PTC
	Feed temperature and flow sensor			Voltage signal (3.5V DC)
Power supply	Voltage		V	230

SOLAR SYSTEM - PRESSURIZED SYSTEM

Solar kit				**EKSOLHW**
Dimensions	Unit	HeightxWidthxDepth	mm	770x305x270
Weight	Unit		kg	8
Operation range	Ambient temperature	Min.~Max.	°C	1~35
Sound pressure level	Nom.		dBA	27
Thermal performance	Zero loss collector efficiency η0		%	-
Power supply	Phase/Frequency/Voltage		Hz/V	1~/50/220-240
Power supply intake				INDOOR UNIT

INDOOR UNIT				**EKSDSR1**
Mounting				On wall
Dimensions	Unit	HeightxWidthxDepth	mm	332x230x145
Thermal performance	Zero loss collector efficiency η0		%	-
Control	Type			Digital temperature difference controller with plain text display
	Power consumption		W	2
Sensor	Solar panel temperature sensor			Pt1000
	Storage tank sensor			PTC
	Return flow sensor			PTC
	Feed temperature and flow sensor			Voltage signal (3.5V DC)
Power supply	Voltage		V	230

SOLAR COLLECTOR

Solar collector				**EKSH26P**	**EKSV21P**	**EKSV26P**
Dimensions	Unit	HeightxWidthxDepth	mm	1,300x2,000x85	2,000x1,006x85	2,000x1,300x85
Weight	Unit		kg	42	35	42
Volume			l	2.1	1.3	1.7
Surface	Outer		m^2	2.6	2.01	2.6
	Aperture		m^2	2.350	1.79	2.35
	Absorber		m^2	2.360	1.8	2.36
Coating				Micro-therm (absorption max.96%, Emission ca. 5% +/-2%)		
Absorber				Harp-shaped copper pipe register with laser-welded highly selective coated aluminium plate		
Glazing				Single pane safety glass, transmission +/- 92%		
Allowed roof angle	Min.~Max.		°	15~80		
Operating pressure	Max.		bar	6		
Stand still temperature	Max.		°C	200		
Thermal performance	Zero loss collector efficiency η0		%	-		

HEAT PUMP CONVECTOR

INDOOR UNIT				**FWXV15A**	**FWXV20A**
Heating capacity	Total capacity	Nom.	kW	1.5	2.0
			Btu/h	5,100	6,800
Cooling capacity	Total capacity	Nom.	kW	1.2	1.7
	Sensible capacity	Nom.	kW	0.98	1.4
Power input	Heating	Nom.	kW	0.013	0.015
	Cooling	Nom.	kW	0.013	0.015
Dimensions	Unit	HeightxWidthxDepth	mm	600x700x210	
Weight	Unit		kg	15	
Piping connections	Drain/OD/Inlet/Outlet		mm/inch	18/G 1/2/G 1/2	
Sound pressure level	Heating	Nom.	dBA	19	29
	Cooling	Nom.	dBA	19	29
Power supply	Phase/Frequency/Voltage		Hz/V	1~/50/60/220-240/220	

ROOM THERMOSTAT

Wireless / Wired room thermostat				**EKRTR1**	**EKRTWA**
Dimensions	Unit	HeightxWidthxDepth	mm	-	87x125x34
	Thermostat	Height/Width/Depth	mm	87/125/34	-
	Receiver	Height/Width/Depth	mm	170/50/28	-
Weight	Unit		g	-	215
	Thermostat		g	210	-
	Receiver		g	125	-
Ambient temperature	Storage	Min./Max.	°C	-20/60	
	Operation	Min./Max.	°C	0/50	
Temperature setting range	Heating	Min./Max.	°C	4/37	
	Cooling	Min./Max.	°C	4/37	
Clock				Yes	
Regulation function				Proportional band	
Power supply	Voltage		V	-	Battery powered 3* AA-LR6 (alkaline)
	Thermostat	Voltage	V	Battery powered 3x AA-LRG (alkaline)	
	Receiver	Voltage	V	230	-
	Frequency		Hz	50	-
	Phase			1~	-
Connection	Type				Wired
	Thermostat			Wireless	-
	Receiver			Wired	-
Maximum distance to receiver	Indoor		m	approx.30m	-
	Outdoor		m	approx.100m	-

2. DAIKIN ALTHERMA HIGH TEMPERATURE

FLOOR STANDING UNIT

HEATING ONLY

INDOOR UNIT					EKHBRD011ACV1	EKHBRD014ACV1	EKHBRD016ACV1	EKHBRD011ACV1	EKHBRD014ACV1	EKHBRD016ACV1	EKHBRD011ACY1	EKHBRD014ACY1	EKHBRD016ACY1	EKHBRD011ACY1	EKHBRD014ACY1	EKHBRD016ACY1
Casing	Colour				Metallic grey											
	Material				Precoated sheet metal											
Dimensions	Unit	HeightxWidthxDepth		mm	705x600x695											
Weight	Unit			kg	144.25						147.25					
Operation range	Heating	Ambient	Min.~Max.	°C	-20~20											
		Water side	Min.~Max.	°C	25~80											
	Domestic hot water	Ambient	Min.~Max.	°CDB	-20~35											
		Water side	Min.~Max.	°C	25~80											
Refrigerant	Type				R-134a											
	Charge			kg	3.2											
Sound pressure level	Nom.			dBA	43 / 46	45 / 46	46 / 46	43 / 46	45 / 46	46 / 46	43 / 46	45 / 46	46 / 46	43 / 46	45 / 46	46 / 46
	Night quiet mode	Level 1		dBA	40	43	45	40	43	45	40	43	45	40	43	45
Power supply	Name				V1						Y1					
	Phase				1~						3~					
	Frequency			Hz	50											
	Voltage			V	220-240						380-415					
Current	Recommended fuses			A	25						16					

OUTDOOR UNIT				ERSQ011AV1	ERSQ014AV1	ERSQ016AV1	ERRQ011AV1	ERRQ014AV1	ERRQ016AV1	ERSQ011AY1	ERSQ014AY1	ERSQ016AY1	ERRQ011AY1	ERRQ014AY1	ERRQ016AY1
Heating capacity	Nom.		kW	11 / 11 / 11	14 / 14 / 14	16 / 16 / 16	11 / 11	14 / 14	16 / 16	11 / 11 / 11	14 / 14 / 14	16 / 16 / 16	11 / 11	14 / 14	16 / 16
Power input	Heating	Nom.	kW	3.57 / 4.40 / 2.61	4.66 / 5.65 / 3.55	5.57 / 6.65 / 4.31	3.57 / 4.40	4.66 / 5.65	5.57 / 6.65	3.57 / 4.40 / 2.61	4.66 / 5.65 / 3.55	5.57 / 6.65 / 4.31	3.57 / 4.40	4.66 / 5.65	5.57 / 6.65
COP				3.08 / 2.50 / 4.22	3.00 / 2.48 / 3.94	2.88 / 2.41 / 3.72	3.08 / 2.50	3.00 / 2.48	2.88 / 2.41	3.08 / 2.50 / 4.22	3.00 / 2.48 / 3.94	2.88 / 2.41 / 3.72	3.08 / 2.50	3.00 / 2.48	2.88 / 2.41
Dimensions	Unit	HeightxWidthxDepth	mm	1,345x900x320											
Weight	Unit		kg	120											
Operation range	Heating	Min.~Max.	°CWB	-20~20											
	Domestic hot water	Min.~Max.	°CDB	-20~35											
Refrigerant	Type			R-410A											
	Charge		kg	4.5											
Sound power level	Heating	Nom.	dBA	68	69	71	68	69	71	68	69	71	68	69	71
Sound pressure level	Heating	Nom.	dBA	52	53	55	52	53	55	52	53	55	52	53	55
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V1/1~/50/220-440			V1/1~/50/220-240			Y1/3~/50/380-415					
Current	Recommended fuses		A	25						16					

INDOOR UNIT				EKHBRD011ACV1	EKHBRD014ACV1	EKHBRD016ACV1	EKHBRD011ACY1	EKHBRD014ACY1	EKHBRD016ACY1
Casing	Colour			Metallic grey					
	Material			Precoated sheet metal					
Dimensions	Unit	HeightxWidthxDepth	mm	705x600x695					
Weight	Unit		kg	144.25			147.25		
Operation range	Heating	Ambient Min.~Max.	°C	-20 (9)~20 (9)					
		Water side Min.~Max.	°C	25~80					
	Domestic hot water	Ambient Min.~Max.	°CDB	-20~35					
		Water side Min.~Max.	°C	25~80					
Refrigerant	Type			R-134a					
	Charge		kg	3.2					
Sound pressure level	Nom.		dBA	43 (1) / 46 (2)	45 (1) / 46 (2)	46 (1) / 46 (2)	43 (1) / 46 (2)	45 (1) / 46 (2)	46 (1) / 46 (2)
	Night quiet mode	Level 1	dBA	40 (1)	43 (1)	45 (1)	40 (1)	43 (1)	45 (1)
Power supply	Name			V1			Y1		
	Phase			1~			3~		
	Frequency		Hz	50					
	Voltage		V	220-240			380-415		
Current	Recommended fuses		A	25			16		

(1) Sound levels are measured at: EW 55°C; LW 65°C; Dt 10°C; ambient conditions 7°CDB/6°CWB (2) Sound levels are measured at: EW 70°C; LW 80°C; Dt 10°C; ambient conditions 7°CDB/6°CWB

OUTDOOR UNIT				EMRQ8A	EMRQ10A	EMRQ12A	EMRQ14A	EMRQ16A
Heating capacity	Nom.		kW	22.4	28	33.6	39.2	44.8
Cooling capacity	Nom.		kW	20	25	30	35	40
Dimensions	Unit	HeightxWidthxDepth	mm	1,680x1,300x765				
Weight	Unit		kg	331			339	
Operation range	Heating	Min.~Max.	°CWB	-15~20				
	Domestic hot water	Ambient Min.~Max.	°CDB	-15~35				
	Cooling	Min.~Max.	°CDB	10~43				
Refrigerant	Type			R-410A				
Piping connections	Liquid	OD	mm	9.52		12.7		
	Suction	OD	mm	19.1	22.2	28.6		
	High and low pressure gas	OD	mm	15.9	19.1		22.2	
	Piping length	OU - IU Max.	m	100				
		System Equivalent	m	120				
	Total piping length	System Actual	m	300				
Sound power level	Heating	Nom.	dBA	78		80	83	84
Sound pressure level	Heating	Nom.	dBA	58		60	62	63
Power supply	Phase/Voltage		V	3~/380-415				

SOLAR COLLECTOR

Solar collector				EKSH26P	EKSV21P	EKSV26P
Dimensions	Unit	HeightxWidthxDepth	mm	1,300x2,000x85	2,000x1,006x85	2,000x1,300x85
Weight	Unit		kg	42	35	42
Volume			l	2.1	1.3	1.7
Surface	Outer		m^2	2.6	2.01	2.6
	Aperture		m^2	2.350	1.79	2.35
	Absorber		m^2	2.360	1.8	2.36
Coating				Micro-therm (absorption max.96%, Emission ca. 5% +/-2%)		
Absorber				Harp-shaped copper pipe register with laser-welded highly selective coated aluminium plate		
Glazing				Single pane safety glass, transmission +/- 92%		
Allowed roof angle	Min.~Max.		°	15~80		
Operating pressure	Max.		bar	6		
Stand still temperature	Max.		°C	200		
Thermal performance	Zero loss collector efficiency η0		%	-		

SOLAR SYSTEM - UNPRESSURISED SYSTEM

INDOOR UNIT				EKSRPS3
Mounting				On side of tank
Dimensions	Unit	HeightxWidthxDepth	mm	815x230x142
Thermal performance	Zero loss collector efficiency η0		%	-
Control	Type			Digital temperature difference controller with plain text display
	Power consumption		W	2
Sensor	Solar panel temperature sensor			Pt1000
	Storage tank sensor			PTC
	Return flow sensor			PTC
	Feed temperature and flow sensor			Voltage signal (3.5V DC)
Power supply	Voltage		V	230

DOMESTIC HOT WATER TANK

Domestic hot water tank				EKHTS200AC	EKHTS260AC
Casing	Colour			Metallic grey	
	Material			Galvanised steel (precoated sheet metal)	
Dimensions	Unit	Height/integrated on INDOOR UNITxWidthxDepth	mm	2,010x600x695	2,285x600x695
Weight	Unit	Empty	kg	70	78
Tank	Water volume		l	200	260
	Material			Stainless steel (EN 1.4521)	
	Maximum water temperature		°C	75	
	Insulation	Heat loss	kWh/24h	1.2	1.5
Heat exchanger	Quantity			1	
	Tube material			Duplex steel (EN 1.4162)	
	Face area		m^2	1.56	
	Internal coil volume		l	7.5	

DOMESTIC HOT WATER TANK FOR UNPRESSURISED SOLAR CONNECTION

Domestic hot water tank				EKHWP300B	EKHWP500B
Dimensions	Unit	Height	mm	1,640	1,640
		Width	mm	595	790
		Depth	mm	615	790
Weight	Unit	Empty	kg	59	93
Tank	Water volume		l	300	500
	Maximum water temperature		°C	85	
	Insulation	Heat loss	kWh/24h	1.3	1.4
Heat exchanger	Domestic hot water	Tube material		Stainless steel	
		Face area	m^2	5.8	6
		Internal coil volume	l	27.9	29
		Operating pressure	bar	6	
		Average specifc thermal output	W/K	2,790	2,900
	Charging	Tube material		Stainless steel	
		Face area	m^2	2.7	3.8
		Internal coil volume	l	13.2	18.5
		Operating pressure	bar	3	
		Average specifc thermal output	W/K	1,300	1,800
	Auxiliary solar heating	Tube material		Stainless steel	
		Face area	m^2	-	0.5
		Internal coil volume	l	-	2.3
		Operating pressure	bar	3	
		Average specifc thermal output	W/K	-	280

3. DAIKIN ALTHERMA HYBRID HEAT PUMP

HEATING ONLY

INDOOR UNIT					EHYHBH05AV3	EHYHBH08AV3	EHYKOMB33AA
Casing	Colour				White		White - RAL9010
	Material				Precoated sheet metal		
Dimensions	Unit	HeightxWidthxDepth		mm	902x450x164		710x450x240
Weight	Unit			kg	30	31.2	36
Operation range	Heating	Ambient	Min.~Max.	°C	-25~25		-~-
		Water side	Min.~Max.	°C	25~55		15 (1)~80 (1)
	Domestic hot water	Water side	Min.~Max.	°C	-~-		40~65
Power supply	Name				V3		-
	Phase				1~		
	Frequency			Hz	50		
	Voltage			V	230		

(1) DB/WB 7°C/6°C - LWC 35°C (DT=5°C), boiler bypassed

OUTDOOR UNIT				EVLQ05CV3	EVLQ08CV3
Heating capacity	Min.		kW	1.80 (1) / 1.80 (2)	
	Nom.		kW	4.40 (1) / 4.03 (2)	7.40 (1) / 6.89 (2)
	Max.		kW	5.12 (1) / 4.90 (2)	10.02 (1) / 9.53 (2)
Power input	Heating	Nom.	kW	0.87 (1) / 1.13 (2)	1.66 (1) / 2.01 (2)
COP				5.04 (1) / 3.58 (2)	4.45 (1) / 3.42 (2)
Dimensions	Unit	HeightxWidthxDepth	mm	735x832x307	
Weight	Unit		kg	54	56
Operation range	Heating	Min.~Max.	°CWB	-25~25	
Refrigerant	Type			R-410A	
	Charge		kg	1.45	1.60
Sound power level	Heating	Nom.	dBA	61	62
Sound pressure level	Heating	Nom.	dBA	48	49
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V3/1~/50/230	
Current	Recommended fuses		A	20	

(1) Condition: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C) (2) Condition: Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)

HEATING & COOLING

INDOOR UNIT					EHYHBX08AV3	EHYKOMB33AA
Casing	Colour				White	White - RAL9010
	Material				Precoated sheet metal	
Dimensions	Unit	HeightxWidthxDepth		mm	902x450x164	710x450x240
Weight	Unit			kg	31.2	36
Operation range	Heating	Ambient	Min.~Max.	°C	-25~25	-~-
		Water side	Min.~Max.	°C	25~55	15 (1)~80 (1)
	Cooling	Ambient	Min.~Max.	°C	10~43	-
		Water side	Min.~Max.	°C	5~22	-
	Domestic hot water	Water side	Min.~Max.	°C	-~-	40~65
Power supply	Name				V3	-
	Phase				1~	
	Frequency			Hz	50	
	Voltage			V	230	

OUTDOOR UNIT				EVLQ08CV3
Heating capacity	Min.		kW	1.80 (1) / 1.80 (2)
	Nom.		kW	7.40 (1) / 6.89 (2)
	Max.		kW	10.02 (1) / 9.53 (2)
Cooling capacity	Min.		kW	2.50 (3) / 2.50 (4)
	Nom.		kW	6.86 (3) / 5.36 (4)
Power input	Heating	Nom.	kW	1.66 (1) / 2.01 (2)
	Cooling	Nom.	kW	2.01 (3) / 2.34 (4)
COP				4.45 (1) / 3.42 (2)
EER				3.41 (3) / 2.29 (4)
Dimensions	Unit	HeightxWidthxDepth	mm	735x832x307
Weight	Unit		kg	56
Operation range	Heating	Min.~Max.	°CWB	-25~25
Refrigerant	Type			R-410A
	Charge		kg	1.60
Sound power level	Heating	Nom.	dBA	62
Sound pressure level	Heating	Nom.	dBA	49 (3)
Power supply	Name/Phase/Frequency/Voltage		Hz/V	V3/1~/50/230
Current	Recommended fuses		A	20

(1) Condition: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C) (2) Condition: Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C) (3) Cooling: Ta 35°C - LWE 18°C (DT=5°C) (4) Cooling: Ta 35°C - LWE 7°C (DT=5°C)

4. DAIKIN ALTHERMA FLEX TYPE

HEATING ONLY

INDOOR UNIT					EKHVMRD50A	EKHVMRD80A	EKHVMYD50A	EKHVMYD80A	EKHBRD011ACV1	EKHBRD014ACV1	EKHBRD016ACV1	EKHBRD011ACY1	EKHBRD014ACY1	EKHBRD016ACY1
Casing	Colour				Metallic grey									
	Material				Precoated sheet metal									
Dimensions	Unit	HeightxWidthxDepth		mm	705x600x695									
Weight	Unit			kg	92		120		144.25			147.25		
Operation range	Heating	Ambient	Min.~Max.	°C	-15~20				-20~20					
		Water side	Min.~Max.	°C	25~80									
	Cooling	Ambient	Min.~Max.	°CDB	-~-		10~43		-~-					
		Water side	Min.~Max.	°C	-~-		5~20		-~-					
	Domestic hot water	Ambient	Min.~Max.	°CDB	-15~35				-20~35					
		Water side	Min.~Max.	°C	45~75				25~80					
Refrigerant	Type				R-134a									
	Charge			kg	2				3.2					
Sound pressure level	Nom.			dBA	40 (1) / 43 (2)	42 (1) / 43 (2)	40 (1) / 43 (2)	42 (1) / 43 (2)	43 (1) / 46 (2)	45 (1) / 46 (2)	46 (1) / 46 (2)	43 (1) / 46 (2)	45 (1) / 46 (2)	46 (1) / 46 (2)
	Night quiet mode	Level 1		dBA	38 (1)				40 (1)	43 (1)	45 (1)	40 (1)	43 (1)	45 (1)
Power supply	Name				V1							Y1		
	Phase				1~							3~		
	Frequency			Hz	50									
	Voltage			V	220-240							380-415		
Current	Recommended fuses			A	20				25			16		

(1) Sound levels are measured at: EW 55°C; LW 65°C (2) Sound levels are measured at: EW 70°C; LW 80°C

HEAT RECOVERY

OUTDOOR UNIT					EMRQ8A	EMRQ10A	EMRQ12A	EMRQ14A	EMRQ16A
Heating capacity	Nom.			kW	22.4	28	33.6	39.2	44.8
Cooling capacity	Nom.			kW	20	25	30	35	40
Dimensions	Unit	HeightxWidthxDepth		mm	1,680x1,300x765				
Weight	Unit			kg	331			339	
Operation range	Heating	Min.~Max.		°CWB	-15~20				
	Domestic hot water	Ambient	Min.~Max.	°CDB	-15~35				
	Cooling	Min.~Max.		°CDB	10~43				
Refrigerant	Type				R-410A				
Piping connections	Liquid	OD		mm	9.52		12.7		
	Suction	OD		mm	19.1	22.2	28.6		
	High and low pressure gas	OD		mm	15.9	19.1		22.2	
	Piping length	OU - IU	Max.	m	100				
		System	Equivalent	m	120				
	Total piping length	System	Actual	m	300				
Sound power level	Heating	Nom.		dBA	78		80	83	84
Sound pressure level	Heating	Nom.		dBA	58		60	62	63
Power supply	Phase/Voltage			V	3~/380-415				

DOMESTIC HOT WATER TANK

DOMESTIC HOT WATER TANK					EKHTS200AC	EKHTS260AC
Casing	Colour				Metallic grey	
	Material				Galvanised steel (precoated sheet metal)	
Dimensions	Unit	Height(integrated on indoor unit)xWidthxDepth		mm	2,010x600x695	2,285x600x695
Weight	Unit	Empty		kg	70	78
Tank	Water volume			l	200	260
	Material				Stainless steel (EN 1.4521)	
	Maximum water temperature			°C	75	
	Insulation	Heat loss		kWh/24h	1.2	1.5
Heat exchanger	Quantity				1	
	Tube material				Duplex steel (EN 1.4162)	
	Face area			m^2	1.56	
	Internal coil volume			l	7.5	

HEAT PUMP CONVECTOR

HEATING & COOLING

INDOOR UNIT				FWXV15A	FWXV20A
Heating capacity	Total capacity	Nom.	kW	1.5	2.0
			Btu/h	5,100	6,800
Cooling capacity	Total capacity	Nom.	kW	1.2	1.7
	Sensible capacity	Nom.	kW	0.98	1.4
Power input	Heating	Nom.	kW	0.013	0.015
	Cooling	Nom.	kW	0.013	0.015
Dimensions	Unit	HeightxWidthxDepth	mm	600x700x210	
Weight	Unit		kg	15	
Piping connections	Drain/OD/Inlet/Outlet		mm/inch	18/G 1/2/G 1/2	
Sound pressure level	Heating	Nom.	dBA	19	29
	Cooling	Nom.	dBA	19	29
Power supply	Phase/Frequency/Voltage		Hz/V	1~/50/60/220-240/220	

5. DAIKIN ALTHERMA GROUND SOURCE HEAT PUMP

HEATING ONLY

INDOOR UNIT					EGSQH10S18A9W
Heating capacity	Min.			kW	3.11 (1) / 2.47 (2)
	Nom.			kW	10.2 (1) / 9.29 (2)
	Max.			kW	13.0 (1) / 11.9 (2)
Power input	Nom.			kW	2.34 (1) / 2.82 (2)
COP					4.35 (1) / 3.29 (2)
Casing	Colour				White
	Material				Precoated sheet metal
Dimensions	Unit	HeightxWidthxDepth		mm	1,732x600x728
Weight	Unit			kg	210
Tank	Water volume			l	180
	Insulation	Heat loss		kWh/24h	1.36
	Corrosion protection				Anode
Operation range	Installation space	Min.~Max.		°C	5~30
	Brine side	Min.~Max.		°C	-5~20
	Heating	Water side	Min.~Max.	°C	24~60 (heat pump) / 65 (heat pump + back up heater)
	Domestic hot water	Water side	Min.~Max.	°C	24~60 (heat pump) / 60 (back up heater)
Refrigerant	Type				R-410A
	Charge			kg	1.8
Sound power level	Nom.			dBA	46
Sound pressure level	Nom.			dBA	32
Power supply	Name				9W
	Phase				3~
	Frequency			Hz	50
	Voltage			V	400
Current	Recommended fuses			A	32

(1) EWB/LWB 0°C/-3°C - LWC 35°C (DT=5°C) (2) EWB/LWB 0°C/-3°C - LWC 45°C (DT=5°C)

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